SPF Zero
Chemical Sunscreen Exposed

Dr. Don
$PF Zero

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by

Dr. Don

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Published in eBook format by eBookIt.com
http://www.eBookIt.com?10937682


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Who Knew?

Why are you the last to know?

Designed as sunburn prevention, chemical sunscreen has become an overused, everyday product. The problem is sunscreen chemicals are endocrine disruptors, mutagens, and carcinogens, they block vitamin D production, kill coral reefs, and transform male fish to female. Are you now questioning what those chemicals are doing to you and your family?

A study of the 500 most popular chemical sunscreen products found that nearly half may actually cause skin cancer, and nearly all—461 out of 500—chemical sunscreen products were actually unsafe to use. None of the chemical sunscreen products prevent skin cancer; look at the label, you won’t find that claim anywhere. In short, the overuse of chemical sunscreen is pandemic and is contributing to many deficiency diseases affecting large populations across many countries.

Today the chemical sunscreen industry easily pulls in $5 billion a year. Chemical sunscreen, SPF (Sunburn Prevention Factor), is found in suntan lotion, lip balm, lipstick, facial creams, body lotion, shampoos, and yes, even night creams. That must be for the tent-less camper who sleeps until noon. To turn an occasional-use product into a daily-use product, cosmeceutical companies fabricated a state of fear known as Sun Scare.

Sun Scare describes a movement whose sole purpose generates profits for cosmetics manufacturers, cosmetic dermatologists, and beauty magazines—at the expense of your
health. Their exaggeration of skin cancer risk, especially melanoma, has caused a vitamin D deficiency epidemic in the United States, Canada, and other parts of the world, making vitamin D deficiency the greatest health problem of the century. Vitamin D is the most misunderstood substance related to human health, which compounds public education of the problem.

Vitamin D isn’t a supplement or a vitamin. It’s a secosteroid hormone made naturally when your skin is exposed to sunlight or a sunbed. No dietary source for “The Sunshine Vitamin” even comes close to vitamin D levels made naturally from ultraviolet light B (UVB 315 nm–280 nm) exposure. The moment you apply chemical sunscreen, you effectively stop all natural vitamin D production.

You can only make vitamin D from the sun if your shadow is shorter than you are tall; UVB cannot penetrate the atmosphere once the sun angle is less than 45 degrees. For North Americans living above the 37th parallel (Canada and north of Atlanta in the U. S.), you cannot make vitamin D from the sun from October through March. This time of the year is called Vitamin D Winter.

If you’ve read this far, by now you’re probably asking the question, “Why hasn’t anyone reported this?” Well, at least that’s the number-one question most people have upon learning all the risks associated with chemical sunscreens. First, the information is available if you know the right questions to ask and where to search. Second, chemical sunscreen labeling has been
under review by government agencies for three decades, but nothing has been resolved. The chemical sunscreen industry spends $1 million a month in beauty magazine advertising, so you can imagine what is spent on lobbying efforts. Third, Sun Scare has been so effective at scaring you out of the sun that you are willing to ignore data that doesn’t fit the “sun is bad” paradigm. All right, so now that you have more information, what are you going to do?

Consider this: Stop using products containing an SPF on the label except for sunburn prevention, the original, intended purpose. Instead of using the product with the greatest SPF, use the product with the least SPF but that still prevents sunburn for your skin type. There are also natural ways to protect your skin from sunburn with diet and a suntan. Sunburn, not sunshine or sunbeds, is the real enemy and should be avoided, but not at all costs. As you read SPF Zero, you’re going to discover that there are worse things than sunburn.

Nature got it right; you need sunshine like you need food, air, and water. Never sunburn.

“And God said, Let there be light: and there was light. And God saw the light, that it was good.”

—Genesis 1:3-4
PART ONE: The Conundrum

“FDA is not aware of data demonstrating that sunscreen use alone helps prevent skin cancer.”
—U.S. Food and Drug Administration (FDA) 2007

“Sunscreens should not be the first choice for skin cancer prevention and should not be used as the sole agent for protection against the sun.”
—World Health Organization’s International Agency for Research on Cancer, 2001

“Despite the lack of evidence demonstrating the efficacy of modern sunscreens in preventing melanoma… it would be irresponsible not to encourage their use, along with other sun protection strategies…”
—Brian Diffey, British Journal of Dermatology, 2009

“It is not known if protecting skin from sunlight and other UV radiation decreases the risk of skin cancer. It is not known if non-melanoma skin cancer risk is decreased by staying out of the sun, using sunscreens, or wearing long sleeve shirts, long pants, sun hats and sunglasses when outdoors.”
—National Cancer Institute, 2009
Cognitive Dissonance
Are Aliens Coming to Get You?

How do you reconcile information that is inconsistent with your beliefs? You might expect rational people to change their beliefs. The truth is you are biased to your opinion regardless of contrary evidence. This dissonance results in rejecting the inconsistent information, seeking like-minded support, and attempting to persuade others in order to restore consonance. **In other words, once you drink the Kool-Aid, you reject that it is poison, you seek comfort with other Kool-Aid guzzlers, and persuade non-believers and agnostics to swallow the Kool-Aid.**

Sun Scare believes the sun and sunbeds are inherently bad, sun and sunbed avoidance is safe, and chemicals can protect you from skin cancer. These beliefs have taken on a cult-like life of their own. **The massive wealth of contrary evidence has only strengthened Sun Scare’s resolve, not unlike the religious order that believed aliens would come to destroy the earth and rescue the believers.** When the aliens did not arrive and the earth was not destroyed, the believers restored consonance by changing interpretation of the data, convincing more non-believers and growing membership even larger\(^1\). This explains how, despite the available and mounting contrary evidence, the Sun Scare cult continues to attract believers.

Look at the dissonance of chemical sunscreen:

- Does not prevent skin cancer

*The evidence is insufficient to recommend sunscreens for the prevention of skin cancer.*
Interrupts normal hormonal function causing fish to change gender\textsuperscript{2} and men to produce less testosterone\textsuperscript{3}.

- Responsible for killing coral reefs\textsuperscript{4}.
- Generates more free radical damage than it prevents\textsuperscript{5}.
- May cause melanoma cancer, the most deadly form of skin cancer\textsuperscript{6}.
- Promotes skin aging\textsuperscript{7}.

“Most sunscreen chemicals are far from innocuous. In sunlight, some release free radicals that can damage DNA and cells, promote skin aging and possibly raise risks for skin cancer. Some act like estrogen and may disrupt normal hormone signaling in the body. Others may build up in the body and the environment.”

—Environmental Working Group

- Overuse has contaminated 97\% of Americans with Oxybenzone, the leading sunscreen chemical\textsuperscript{8}.
- Blocks 95\% of your natural vitamin D production contributing to the vitamin D deficiency epidemic\textsuperscript{9}.

You’re biased to your opinion. It’s your nature. If you’ve already swallowed the Sun Scare Kool-Aid, there may be no hope for you. You will justify and reconcile the facts to coincide with your belief paradigm—the aliens are coming. \textbf{However, if your intuition is whispering, “The Sun Scare message is not natural.”} then there is hope.

“If you tell a lie big enough and keep repeating it, people will eventually come to believe it.”

—Joseph Goebbels
Your Family Plankton
Have You Met Grandma E Huxleyi?

Way down your evolutionary tree is a phytoplankton *emiliania huxleyi* that has existed for 750 million years. In a laboratory experiment, Dr. Michael Holick exposed these ancients to sunlight and discovered that they make ergocalciferol, or vitamin D$_2$. This proves the hormone vitamin D is ancient; you are an infant by comparison.

![Plankton Image]

About 350 million years ago, give or take a few, your ancestors headed for terra firma—dry land. The ocean is a calcium bath, but dry land has relatively little calcium. The sunshine vitamin became essential for vertebrates to make bones from scarce calcium sources.

It is generally believed that hominids separated from other primates about 4.2 – 8 million years ago. That is, the path to modern humans started about 6 million years ago in Sub-Saharan Africa. Anatomically modern-appearing humans originated in Sub-Saharan Africa about 200,000 years ago.

This is worth repeating: For 6 million years, your ancestors were hunting and gathering under the Sub-Saharan African sun. You only left Sub-Saharan Africa about 70,000 years ago, minutes in evolutionary time. Except for the last ten decades, most humans spent the last 10,000 years hunting and working the fields under the sun, mere seconds in evolutionary time.

Is it fair, given your long evolutionary history, to call sunshine a carcinogen, public enemy number one? How valuable is that classification when red wine, plutonium, salted fish, and birth-control pills sit side by side on the same list? This kind of
exaggeration is dangerous. Most become skeptical and eventually ignore the carcinogen classification as everything in excessive quantity is bad for you.

Too much water in your lungs will cause you to drown. Drink too much water, and your cells explode. Water intoxication is a painful, agonizing death. Should you avoid water? Eat too much food, and over time you risk cardiovascular disease and diabetes. Should you avoid food? **Drink one glass of red wine for a healthy heart; drink a bottle for cirrhosis of the liver.** Are you getting the picture?

Sun avoidance is the wrong message. Man has spent hundreds of thousands of years under the sun. **You are attracted to the sun like you are attracted to food, air, and water.** This attraction is healthy in moderation. Daily chemical sunscreen use is the wrong message. Sensible sun enjoyment with sunburn prevention is the right message.

“For hundreds of thousands of years, man has lived with the sun: Our ancestors were outdoors far more often than indoors. We developed a dependence on sunshine for health and life, so the idea that sunlight is dangerous does not make sense. How could we have evolved and survived as a species, if we were that vulnerable to something humans have been constantly exposed to for their entire existence?”

—Dr. Frank Lipman, internationally recognized expert in the fields of Integrative and Functional Medicine and practicing physician
What Is Chemical Sunscreen?
You’re Confused Because It’s Confusing

For most, the following is going to be a little disconcerting: Chemical sunscreens and sunblocks do NOT reflect the sun’s energy harmlessly back into space. UV energy reacts chemically with the sunscreen in your skin, produces heat, and a tiny amount is reflected away. This process is often more damaging than not using chemical sunscreen at all.  

There is little real distinction between sunscreen and sunblock. The term *sunblock* should not be used for one main reason: it suggests all the sun’s energy is blocked and therefore you have nothing to worry about. There is a movement in the U.S. to remove *sunblock* from the marketing lexicon because it is misleading.

Sunblock commonly, but not always, refers to products that use zinc oxide or titanium dioxide as the main active sunburn prevention ingredient. You’ve seen the lifeguards with the white noses, right? Recently manufacturers have been using nanoparticles to minimize that silver sheen. The problem is nanoparticles are absorbed through the skin into your bloodstream. These products are untested, making zinc and titanium poisoning a real possibility.

Most chemical sunscreens and sunblocks are labeled with an SPF number. SPF indicates a product’s ability to prevent sunburn induced by UVB. A small but important distinction is what you think the acronym SPF means. Marketers say it means Sun Protection Factor, but just like the term *sunblock*, it misleads; first you think you have total sun protection, and second it makes the
product seem harmless. SPF more accurately means Sunburn Prevention Factor or how much sunburn prevention you receive from the product. There is no promise the product is safe or that it gives total protection.

There is concern that the SPF rating system is insufficient because it does not tell the consumer how much if any UVA filtering the product provides. There are several new rating systems being tested around the world, including some licensed-proprietary systems, like the movie rating system (G, PG, PG13, R) used by Hollywood.

The consumer is already confused and misled by SPF, and adding multiple rating systems is a marketer’s dream but a consumer’s nightmare. Any change to the rating system misses the point; laboratory conditions and real-world application have little in common. Have you ever received the stated gas mileage on your new-car sticker?

To get the stated SPF, a woman 5’4” (163cm) weighing 150 lbs. (68kg) in a bikini must apply 1 oz of chemical sunscreen 30 minutes before sun exposure and reapply every 30 minutes thereafter. And worse yet, not reapplying every 30 minutes can lead to more free radical damage than if you had used no sunscreen at all. Let’s put that in perspective: You will consume an entire 6 oz. bottle of chemical sunscreen in just three hours at the beach. Be honest, you’ve been using that same bottle of sunscreen for three years now.

Since no one uses chemical sunscreen as required to prevent free radical damage, scientists have concluded the best you can hope for is an effective SPF of … wait for it … 3.16 on a bottle of SPF 100. Here’s the kicker—a base tan, your natural defense
against sunburn, provides an SPF of 4.0. Nature trumps man’s arrogance.

“There are no safe sunscreen products on the market.”
—Dr. Samuel S. Epstein, author *Toxic Beauty*
The New Tobacco
Bad Guys Wear White Coats Too

“You cannot have power for good without having power for evil, too. Even mother’s milk nourishes murderers as well as heroes.” George Bernard Shaw is suggesting heroes may wear white coats, but they can still do evil.

It is now 1950s America. There’s a black and white TV in every home, and doctors make house calls. Laughter fills the air as the I Love Lucy show comes to a commercial break. The announcer begins:

“Time out for many men of medicine means just long enough to enjoy a cigarette. Because they know what a pleasure it is to smoke a mild, good-tasting cigarette, they’re particular about the brand they choose. In a repeated national survey, doctors in all branches of medicine, doctors in all parts of the country were asked, ‘What cigarette do you smoke, doctor?’ Once again the brand named most was Camel. According to this repeated nationwide survey, more doctors smoke Camels than any other cigarette.”

Doctors and the American Medical Association (AMA) were paid to represent tobacco as medicinal. In their book, Serpent on the Staff, Chicago Times reporters Howard Wolinsky and Tom Brune expose such unhealthy practices of the AMA and their 300,000 doctor members. You might dismiss their behavior as simple greed, but surely they didn’t know the harmful effects of
tobacco. **Would you believe doctors continued to represent big tobacco six years after the U. S. Surgeon General’s first warning appeared on a pack of cigarettes?** Big tobacco was big business for the AMA and their doctor members.

Fast forward to 2011. Today, you are led to believe chemical sunscreens are safe because they are sold in stores and recommended, for profit, by doctors and trusted organizations like the American Academy of Dermatology (AAD). However, a recent U. S. Center for Disease Control study finds 97% of Americans, all ages from child to senior, are contaminated with Oxybenzone, the chemical found in 588 sunscreens, 172 facial moisturizers, 111 lip balms, and 81 different types of lipstick. Many of those products buy “seals of approval” from trusted organizations like the AAD, the Skin Cancer Foundation and the American Cancer Society.

**Oxybenzone and other sunscreen chemicals behave like estrogens, disrupting normal hormonal functions of humans and animals.** In lakes, where chemical-laden swimmers frequent, fish are jumping gender from male to female. Oxybenzone is also responsible for killing coral reefs.

**Chemical sunscreens, contrary to popular belief, do not reflect sunlight harmlessly away.** When sunlight strikes the sunscreen, a chemical reaction occurs converting the energy into free radicals responsible for premature aging and DNA damage, which can cause, of all things, skin cancer.

Dr. Mehmet Oz, host of the *Dr. Oz Show* and professor of surgery at Columbia University, on national TV told viewers to put one ounce of chemical sunscreen on your face every day. **That’s more than two gallons of chemical sunscreen a year just on your face.** I bet his sponsors loved that endorsement.

**One study confirmed a significant decrease of testosterone in men who use sunscreen.** Finally, chemical sunscreens block nearly all your vitamin D production, contributing to hundreds of thousands of deaths from vitamin D deficiency diseases every year, like breast, colon, ovarian, and prostate cancers. Whose health is Dr. Oz supporting, yours or Neutrogena’s?
In his book, *Toxic Beauty*, Dr. Samuel S. Epstein writes, “We are all playing Russian roulette with toxic-laden personal-care products that we apply to our skin and to the skin of our infants and children every day.” I predict the media and medical community one day will tell you to avoid chemical sunscreen like you avoid tobacco or at least limit its use to sunburn prevention as it was intended.

Doctors recommended tobacco for profit as they recommend chemical sunscreen today for profit. *Today, as in the 1950s, many doctors are concerned more about profit than your health, making chemical sunscreen the new tobacco.*

“*Sunscreens were never developed to prevent skin cancer. In fact, there is no evidence to recommend that sunscreens prevent skin cancer in humans.*”

—Zoe Diana Draelos, editor of *Journal of Cosmetic Dermatology*, 2010
A critical thinker would ask why have humans spent the last six million years evolving under the sun and only in the last 40 years has it been necessary to avoid it especially with chemical sunscreen. Cosmetic dermatologists advocate avoiding the sun to prevent skin cancer, a mostly non-fatal disease that is easily cured. Melanoma’s cause, the most deadly and rarest skin cancer, is still a mystery. In exchange, you put yourself at risk for 105 sunlight-deficiency diseases including heart disease, diabetes, multiple sclerosis, and most forms of cancer.²⁸

The chart above approximates the most likely risk of receiving too little or too much UV from the sun or a sunbed. The basis for this chart is the 105 diseases and more than 400,000 premature American deaths associated with sunlight deficiency and the three diseases and less than 12,000 premature American deaths associated with frequent overexposure or sunburn. The obvious conclusion: Receiving too little sun is a much greater risk than receiving too much.

It is easy to know if you are receiving too much sunlight. Nature has a built-in mechanism that tells you to get out of the sun—sunburn. How do you know if you are receiving too little
sunlight? One method is to determine if you have symptoms of sunshine deficiency. Seasonal Affective Disorder or SAD is a form of depression related to getting too little sunshine, for example. Waiting to become symptomatic may be too late, especially if being diagnosed with colon, prostate, ovarian, or breast cancer is the symptom.

Another method is to test for 25-hydroxyvitamin D or 25(OH)D in your blood. 25(OH)D is a hormone made in your liver from a photoproduct, cholecalciferol, or vitamin D₃, made when your unprotected skin is exposed to the sun or a sunbed. A very small amount of cholecalciferol comes naturally from food. **If you supplement with vitamin D₃ pills, then this test will not determine if you are getting enough sunshine and missing out on the many other photoproducts your body makes from sunshine, like serotonin for example.**

When tested, Australian cosmetic dermatologists score 13-14 ng/ml of 25(OH)D, severely sunshine deficient. **Dr. Hollick at the University of Boston tested for 25(OH)D in indoor tanners and non-tanners, and discovered indoor tanners have 90% more 25(OH)D than non-tanners.** Primates living in the wild have 98% more 25(OH)D than even indoor tanners at 80-100ng/ml. Who is smarter when it comes to sunshine, cosmetic dermatologists or monkeys? Where will you get your sun exposure advice, from nature or from cosmetic dermatologists profiting from chemical sunscreen overuse?

“**The danger of too much sun is minimal — the danger of too little sun is enormous.**”

—Dr. Michael R. Eades
The WHO-IARC (World Health Organization – International Agency for Research on Cancer) published a review in 2007 that IARC officials in 2009 claimed established a “limited” and “weak” correlation in a meta-analysis of previous surveys attempting to correlate indoor tanning and melanoma incidence. Here are the data sets from the WHO-IARC report and findings that were not widely reported:

**There is no statistical connection between indoor tanning and melanoma for people who actually use professional indoor tanning facilities in North America.**


There is no statistically significant increase in risk (6%) attributable to the professional indoor tanning community. **When the data are separated by professional indoor tanning, unsupervised home tanning, and cosmetic dermatology UV treatments, the only statistically significant increases (40% and 96%) are attributed to unsupervised home tanning and cosmetic dermatology, respectively.**

Furthermore, the risk for young people is less than 1% in the professional indoor tanning community compared to 89% risk unsupervised at home. **This is just another indication that the professional indoor tanning community is the solution, while home tanning and cosmetic dermatology are the real risk, according to the WHO-IARC report.**
### Professional Indoor Tanning Community

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### Cosmetic Dermatology UV Treatments

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**WHO IARC Meta Analysis Data, 2007**

“You cannot overdose on vitamin D from exposure to sunlight or a tanning bed, no matter how much UVB you get.”

—Dr. Michael Holick, PhD, MD From *The Vitamin D Solution*
Melanoma
The Over-Under Paradox

How can a disease be both over- and underdiagnosed at the same time? This is the paradox and the tragedy of the UV theory of malignant melanoma.

On the one hand, according to the World Health Organization, 137,000 melanomas occur globally each year. The U. S. Cancer Statistics Working Group claims 58,094 people in the United States were diagnosed with melanoma in 2007, including 33,041 men and 25,053 women. How can 42.4% of the world’s melanomas be diagnosed in the United States, while only 4.5% of the world’s population lives there?

This disparity certainly cannot be explained by the theory that melanoma is caused by any UV exposure. If that were the case, then countries like Australia and Israel should have a disproportionate number of diagnoses. How can the U. S. have ten times the number of melanomas diagnosed in relation to its population? Health insurance fraud is one reason. Removing a mole is a cosmetic procedure not covered by health insurance, but removing a mole that is “cancer” is covered. Greed, as it turns out, is motivation for over-diagnosing melanoma. That is just one half of the tragedy.

The current and incorrect dogma theorizes that any UV exposure is a leading risk factor for melanoma. It is worth noting that after millions spent in research dollars, no scientist has determined the mechanism by which UV causes melanoma. Some would call it academic fraud to advance a medical theory as fact without establishing a mechanism.
Cosmetic dermatologists still do not understand why outdoor workers get fewer melanomas than indoor workers. Confounding even further, most melanomas occur on body parts where the sun doesn’t shine. And still additionally frustrating and revenue killing to cosmetic dermatologists, the use of chemical sunscreens does not reduce your risk of melanoma and may even increase your risk. When cosmetic dermatologists ignore data that disproves their UV theory of melanoma, they risk under-diagnosing the disease.

A fellow Pilates student, Libby, discovered the UV theory of melanoma almost killed her husband. A year prior, Libby’s husband had a mole removed from his back. He avoids the sun and has no family history of the disease. His cosmetic dermatologist removed the mole but did not test it, because he never exposes himself to sunshine—never. The mole returned several months later. This time they went to an oncologist, and the mole was diagnosed and treated as melanoma. Libby’s husband is lucky, for now.

This is similar to another story that had dire consequences. A doctor died from melanoma after his cosmetic dermatologist determined he had nothing to worry about because he avoids the sun. The additional irony is the dead doctor’s wife is also a doctor who, because of incorrect dogma, also advised him he had nothing to worry about because he never exposes himself to the sun.

Do not allow your cosmetic dermatologist to falsely diagnose you with skin cancer or pre-cancer so your mole removal is covered by insurance. That is fraud, and you are now a cancer survivor. Good luck getting life insurance.

Regardless of what your cosmetic dermatologist claims about your risk factors, demand that any mole removed be tested. There is no clear evidence that sun avoidance means you are not at risk for melanoma; in fact, the opposite is true. The most likely truth borne by the data is that heredity, abnormal moles, changing moles, sun abstinence, chemical sunscreen use, and frequent and severe sunburn are risk factors for melanoma. You need sunshine like you need food, air, and water. Never sunburn.
“There is little scientific or, for that matter, historical evidence to support public health campaigns which recommend avoidance of the sun. There is no proof that sunlight causes melanoma, or that sunscreens prevent it.”

PART TWO: The Cause

“The big mistake was that the idea that sun exposure causes melanoma went public before it was proved. In fact, we don't know what causes melanoma.”

—Dr. Sam Shuster, Professor Emeritus, Department of Dermatology, Newcastle University

“Starting in the 1980s, for the first time in human history, doctors began telling patients to avoid the sun. Up until that time, the sun was recognized as a curative agent by every form of medicine known to man.”

—Dr. John Cannell

“We are all playing Russian roulette with toxic-laden personal-care products that we apply to our skin and to the skin of our infants and children every day.”

—Dr. Samuel S. Epstein, author Toxic Beauty

“People have changed their minds about the sun; it is now considered ‘evil.’ When you and I were growing up, our mothers told us that sunshine and fresh air were good for us. You never hear that anymore. Now, sunshine is a bad thing!”

—Dr. John Cannell
Sun Scare
Beware of the Dark Side

Sun Scare is a movement to increase profits for cosmetics manufacturers, cosmetic dermatologists, and beauty magazines by creating an unnatural state of fear of the sun and ultraviolet light exposure. Definition from www.sunscare.com

Sun Scare describes a movement whose sole purpose generates profits for cosmetics manufacturers, cosmetic dermatologists and beauty magazines, at the expense of your health. Their exaggeration of skin cancer risk, especially melanoma, has caused a vitamin D deficiency epidemic in the United States, Canada, and other parts of the world, making vitamin D deficiency the greatest health problem of the century.

Vitamin D is misunderstood; it isn’t a supplement or a vitamin. It’s a hormone made naturally when your skin is exposed to sunlight from the sun or a sunbed. No dietary source for “The Sunshine Vitamin” even comes close to vitamin D levels made naturally from ultraviolet light B (UVB 315 nm–280 nm).

What’s important is that 77 percent of Americans, 97 percent of black Americans, and 97 percent of Canadians are vitamin D deficient, according to government data. The vitamin D research community now recommends vitamin D blood levels of 40-60 ng/ml—levels that nature meant for you to get from regular, non-burning UV exposure. Any cosmetic dermatologist who tells you otherwise is ignoring the facts and clinging to the irrational sun phobia that causes vitamin D deficiency.
Indoor tanners’ average vitamin D levels are 42-49 ng/ml, according to Boston University research sufficient levels, and 90 percent higher than the rest of the population.\textsuperscript{39} That comes as no surprise; a single tanning session makes more vitamin D than 100 glasses of milk. In contrast, an Australian study reveals that dermatologists at the end of summer, when vitamin D levels should be their highest, are severely vitamin D deficient at 13.8 ng/ml.

So who’s in the dark here?

Vitamin D research has proven conclusively that you are designed to interact with sunlight, just as you are designed to breath air, drink water, and eat food. It’s just a matter of time before cosmetic dermatology and chemical sunscreen manufacturers are exposed for overstating the risks of UV, falsely suggesting that risks associated with repeated sunburn are also related to regular, non-burning exposure. That convenient omission has skyrocketed chemical sunscreen sales, turning a sunburn-prevention product into a daily, overused product. And that has contributed to vitamin D deficiency.

It’s time to expose yourself to something that should be obvious: It’s time to let the sun back into your life.

“I see us moving to more shelters and even underground living because of these (sunlight) hazards.”

—Dr. Wilma Bergfeld, American Academy of Dermatology past-president promoting Sun Scare
Is Your Doctor Average?
Half of the Doctors Are Below Average

The normal distribution is the limiting distribution of a random quantity which is the sum of smaller, independent random phenomena. In other words, some doctors are good, some bad, but most fall in the middle. In fact, half of all doctors are below average medical professionals. According to one study, male doctors have an IQ range of 110-135, placing them all in the top quartile or among the top 25% of IQs. Sorry, ladies, but the study did not include female doctors. That is good news, right? But what other factors contribute to the quality of your doctor?

Even Einstein believed creativity is more important than knowledge. He asserted the more educated you are, the more your mind is confined to limited associations, shaped to conform. This may stifle creativity and the ability to improvise and invent. Is your doctor creative; can he/she think outside of the proverbial box?

Is your doctor influenced by greed? The Journal of the American Medical Association claims doctors are bribed by pharmaceutical companies. Some bribes include luxurious vacations, tickets to shows and dinners, while others are small gestures, such as free samples and pens. Nevertheless, a doctor overtly or subtly may feel obligated to prescribe a particular medicine.

Of the top four smartest professions—doctors, lawyers, educators, and engineers—doctors smoke more cigarettes. In fact, doctors also smoke more than managers, financiers, scientists, and social workers—all considered less intelligent based on IQ
scores. Does your doctor smoke, and if so, what does that say about his or her decision-making abilities? More important, do you believe your doctor or doctors in general are above average?

Lake Wobegon is the fictional world of Garrison Keillor where “all the women are strong, all the men are good looking, and all the children are above average.” This fictional world aptly illustrates our tendency to see ourselves as above average and has been observed among drivers, college students, parents, and doctors, among others. Your doctor, the doctor you see hocking pills on TV, and the doctor who claims chemical sunscreens prevent melanoma are as likely to be below average as above.

“Exposing yourself to sunlight is the most important source of vitamin D. Sunlight is far more likely to provide you with your vitamin D requirement than food is.”

—Dr. Jack D’Angelo, The Richmond (New York) County Medical Society, as printed in a letter on getting adequate vitamin D titled, “Think of vitamin D as the sunshine vitamin” on Staten Island Live
Cosmetic Dermatologist Hall of Shame
Dark Lords of the Dark Side

The journey to the truth often takes you to rainbow’s end and the pot of gold; follow the money. One such truth explains Sun Scare, a movement whose sole purpose generates profits for cosmetics manufacturers, cosmetic dermatologists and beauty magazines, at the expense of your health. Sun Scare’s exaggeration of skin cancer risk, especially melanoma, has caused a vitamin D deficiency epidemic in the United States, Canada, and other parts of the world, making vitamin D deficiency the greatest health problem of the century.

Today cosmetic dermatologists lose more than $4.5 billion* per year in eczema, psoriasis, and acne UV treatments to the professional indoor tanning community *(Psoriasis patients average 35 treatments per year at an average cost of $85/treatment times 1.5 million people self treating at indoor tanning salons). UV therapy treatments are now performed by the professional indoor tanning community for one-twentieth or 5% of the cost of medical treatments. Although the professional indoor tanning community is a beauty business, 11 percent of professional indoor tanning community clients are referred by a doctor for light therapy according to a survey of 6,881 clients.

Consequently, the American Academy of Dermatology (AAD) has the stated goal of shutting down the professional indoor tanning community to remove the competition. In 30 years, the AAD has been unsuccessful in its attempts, which may be why many cosmetic dermatologists have turned to crime to make extra cash.
The AAD member doctors are disproportionately dishonest. For example, according to the American Cancer Society and the World Health Organization, in 2010 U. S. doctors diagnose 42.4 percent\(^{47,48}\) of the world’s melanomas. The U.S. only has 4.5 percent of the world’s population. **This fraud not only hurts patients and costs money, but it exaggerates skin cancer incidence reporting by a factor of 9.4.**

This chapter is dedicated to those model cosmetic dermatologists who epitomize the cosmetic dermatology industry.

**Dermatology Poster Children**

**Dr. Michael Rosin**

Cosmetic dermatologist Dr. Michael Rosin is serving 22 years in jail for medical fraud. According to the Coalition Against Insurance Fraud, Dr. Rosin performed over 4,000 unnecessary skin-cancer-removal surgeries on 865 patients over four years. One victim went under Dr. Rosin’s knife more than 40 times. He bilked Medicare out of $3.6 million. **Federal investigators retested the thousands of Dr. Rosin’s biopsies and found zero skin cancer … zero.**
Dr. Robert Stokes

Cosmetic dermatologist Dr. Robert Stokes is serving 10 years in jail for 31 counts of insurance fraud for double billing and overcharging for procedures he did not perform. Dr. Robert Stokes frequently removed benign freckles and blemishes after scaring patients into believing they were precancerous. According to the Coalition Against Insurance Fraud, Dr. Stokes stole nearly $2 million from Medicare and Blue Cross Blue Shield of Michigan.

Dr. Marsha Lynn Hoffman-Vaile

Cosmetic dermatologist Dr. Marsha Lynn Hoffman-Vaile is serving 78 months in jail and was ordered to pay $705,161.87 to Medicare and a fine in the amount of $12,500 for health care fraud, false claims, and obstruction of justice charges. According to the Department of Justice, Judge Bucklew ordered Dr. Hoffman-Vaile to pay restitution of $504,068.05 to her victims.

Dermatology Drug Dealers

Dr. David Wexler

Cosmetic dermatologist Dr. David Wexler is serving 20 years in federal prison for unlawfully distributing prescription narcotics (such as Dilaudid, Percocet, Vicodin, and Xanax) and for health
care fraud. According to the Coalition Against Insurance Fraud, Dr. Wexler made false insurance claims of $880,000. $425,000 in insurance claims and 2,000 phantom procedures were for one patient, whom Dr. Wexler paid $700 a month and fed his drug addiction for his acquiescence. That patient eventually died of drug overdose from narcotics prescribed by Dr. Wexler.

Dr. Ana Caos

Cosmetic dermatologist Dr. Ana Caos is serving 41 months in prison for health care fraud. According to the Department of Justice, Caos wrote prescriptions for medications and durable medical equipment that Medicare beneficiaries did not want or need, for the purpose of billing Medicare.

“It has been clearly established that the only way for your body to synthesize vitamin D is in your skin once it’s exposed to ultraviolet rays from the sun. Hence, the current guidelines to avoid sun exposure and the fervent pushing of sunscreen are perhaps some of the most misguided and dangerous health recommendations out there.”

—Leif Grunseth, certified neuromuscular therapist
Virtual Escapism
You Are What You Don’t Do

Dr. Leonard Sax, in his book *Boys Adrift*, makes a compelling argument that boys and many girls are trading real-world activities like sports, community involvement, and academics for the virtual escape of video games. Virtual escapism is rampant in technological societies.

As of this writing:

- There are 1.1 billion hardware gaming systems in homes worldwide\(^{49}\).
- Nine of the top ten paid and eight of the top ten free iPhone applications are games\(^{50}\).
- Over 12 million people subscribe to just one online game, *World of Warcraft*\(^{51}\).
- 80% of U. S. homes have a computer, with 92% of them connected to the Internet\(^{52}\).

Besides making technological societies soft and indolent, virtual escapism has detrimental health consequences. The obvious consequence is obesity from insufficient physical activity and excess consumption. One of the less obvious consequences results from spending too much time indoors. Avoiding the sun causes your skin to lighten and become thin. Thicker, darker skin is your natural defense against sunburn and skin damage. Without this defense, you are more susceptible to sunburn and skin damage when you do go outside or go on vacation to that sunny destination.
Put down the game controller for 20 minutes, grab your friends and family, and go for a walk. Next week, pick one day to be video-game free. When was the last time you had a picnic? You like picnics, remember? Only in the last 40 years of the information and technology age have you shunned the sun. Nature intended for you to get fresh air, clean water, diverse food, and non-burning sunshine. Little by little, get back to nature. Leave the chemical sunscreen at home.

“Studies suggest that some of the most popular video games are disengaging boys from real-world pursuits.”

—Dr. Leonard Sax, MD, PhD
“Light is the basic component from which all life originates, evolves, and is energized. Light and health are inseparable.”

—Ken Ceder, former co-director Hippocrates Health Institute, Boston, Massachusetts.

“Natural sunlight’s benefits are not limited to vitamin D production. As light enters the eyes, photoreceptors convert the light into nerve impulses that travel along the optic nerve to the brain. These impulses trigger the hypothalamus gland to send neurotransmitters to regulate the automatic functions of the body, such as blood pressure, body temperature, respiration, digestion, sexual function, moods, immune and hormonal modulation, and circadian rhythm.”

—Dr. John Maher, DC, DCCN, FAAIM

“How to get enough vitamin D: regularly receive midday sun exposure in the late spring, summer, and early fall, exposing as much of the skin as possible for 20–30 minutes (being careful to never burn).”

—Dr. John Cannell, Executive Director, Vitamin D Council

“If you don't have the opportunity to go out in the sun or prefer a more private and controlled environment, indoor-tanning facilities are a viable alternative to natural sunshine.”

—Dr. Michael Holick, PhD, MD. From “The Vitamin D Solution” page 188.
“The number-one risk factor for melanoma is an inability to tan; people who tan easily or have dark pigmentation are far less likely to develop the disease.”

—David E. Fisher, MD, PhD

“We are human photocells. Our ultimate biological nutrient is sunlight. The sun's 'rhythmic light stimulation & bio-nutrients' are essential for naturally manufacturing vitamin D₃ as well as regulating brain chemistry and circadian rhythms that control appetite, energy, mood, sleep, libido and other body-mind functions.”

—Ken Ceder, research Director bioLight Group
Ashley Fauci is the youngest of three girls. She’s 14, and her two older sisters are 16 and 17. Ashley was an unplanned baby. Like most families, the Faucis didn’t plan on getting a sunbed, either. Consequently the seven-foot-by-three-foot sunbed lives in the garage next to the lawnmower, pesticides, herbicides, weed whacker, and gas can.

Ashley has been tanning in her garage since she was 12. Two years ago, when Mr. Fauci bought the sunbed, it was certified and met all U. S. Food and Drug Administration (FDA) standards.

Mr. Fauci recently bought new lamps for the bed. Because garage sunbeds are not regulated, he was able to buy 10-minute lamps for his 30-minute sunbed. He chose not to install a new 10-minute timer or a federally approved exposure schedule and approved lamp label — all required and regularly inspected at a regulated, professional indoor tanning salon.

Mr. Fauci instructed his daughters not to set the timer past 10 minutes, but you know teenagers. Besides, Mrs. Fauci had already set a precedent of using the sunbed twice in a day, which is not allowed in a regulated professional indoor tanning salon. Ashley set the timer to 30 minutes, receiving serious sunburns on her back and legs that required medical attention.
While the Faucis are at the hospital, the neighbor boy, Jimmy, comes over to use the sunbed. He was invited by Ashley’s oldest sister to use it so he could get a little color for prom. Jimmy’s skin complexion is whiter than flour; a professional indoor tanning salon would determine his skin type to be type I, or “very sensitive and always burns.” North American professional indoor tanning salons do not allow skin type I individuals in sunbeds for a very simple reason—they can’t tan. Professional tanning salons offer sunless alternatives (sprays or creams) for skin type I individuals.

Not only does Jimmy have no business being in a sunbed, he does not know to sanitize the acrylic before he tans or to wear federally approved protective eyewear. Regulated and inspected professional indoor tanning salons are required to use hospital-grade sanitizer between every use and are mandated to ensure every client has approved eyewear. Jimmy goes to the hospital with severe sunburns and later gets a skin infection. Although Jimmy didn’t damage his eyes after one visit, long-term unprotected UV exposure to your eyes can lead to color blindness and cataracts.

Teenagers are going to tan, indoors or outdoors. Any ban on teen tanning will drive children to seek unsafe alternatives like the garage tanning industry. The professional indoor tanning community promotes and teaches The Golden Rule of Smart Tanning: Never sunburn. The professional indoor tanning community is part of the solution in the ongoing battle against sunburn and in teaching teenagers and adults how to identify a proper and practical life-long skin care regimen.

“I believe the health benefits of exposure to UVA and UVB rays greatly outweigh the disadvantages, even if that means using a sunbed during winter months.”

—Dr. Tim Oliver, British Oncologist
Agents of Sunburn
Tequila Makes Your Clothes Fall Off

Have you ever sunburned but didn’t understand why? You remember not burning under similar conditions, but this time you inexplicably got burned. **The culprit could be your food, drink, drugs, or cosmetics.** Certain things you ingest or put on your skin can make you photosensitive.

For example, alcohol increases your sensitivity to sunlight. Drinking alcohol is like applying a negative SPF cream. **Instead of allowing you to stay out in the sun longer without sunburn, alcohol shortens the time it takes to get sunburned.** Drinking too much alcohol can also make you do foolish things like exposing too much of your body. Like the song says, “Tequila makes my clothes fall off.” There are many photosensitizing drugs such as alcohol.

The list of drugs that increase your sensitivity to sunlight is long and growing. **If a drug drastically increases your sensitivity to sunlight, it will have a warning on the bottle and in the product instructions.** That is not the case with food and cosmetics. The level of photosensitivity ranges from mild to severe and varies from person to person. Here are some diseases, drugs, foods, and cosmetics that typically increase sensitivity to UV from the sun or a sunbed:

- Acne medication such as isotretinoin and acitretin
- Alcohol that you drink
• Antibiotics such as quinolones, tetracyclines, and sulfonamides
• Antihistamines such as diphenhydramine
• Antimicrobials such as chlorhexidine, hexachlorophene, and dapsone
• Birth control pills containing estrogen
• Cardiac drugs such as amiodarone, nifedipine, quinidine, and diltiazem
• Chemotherapy drugs such as 5-fluorouracil, vinblastine, and dacarbazine
• Cholesterol drugs such as cholestyramine, fluvastatin, lovastatin, and simvastatin
• Diabetic drugs such as sulfonylureas
• Diseases such as albinism, atinie prurigo, dermatomysis, lichen rubber, lung tuberculosis, lupus erythemotosum, melasma, photoallergic eczema, polymorphous light eruption, porphria, related allergies, rosacea, solar urticaria, sun poisoning, varix, vitiligo, and xeroderma pigmentosum
• Diuretics such as furosemide and thiazides
• Excessive exfoliation from alpha hydroxyl acids, salicylic acids, waxing, laser treatments, and chemical peels
• Foods such as carrots, celery, citrus fruit, clover, dill, eggs, figs, garlic, ginko biloba, wheat, barley, mustard, onions, parsley, parsnips, Saint John’s Wort, and smartweed
• Fragrances such as 6-methylcoumarine, coumarin, musk ambrette, and ethereal oils; bergamot, cedar, citron, lavender, lemon, lime, rosemary, sandalwood, and vanilla
• Malaria medications such as quinine, chloroquine, and hydroxychloroquine
• Medicine psoralens such as methoxsalen, 5-methoxypsoralen, and trisoralen
• Pain killers such as nonsteroidal anti-inflammatory drugs (NSAIDs) and celecoxib
• Psychiatric drugs such as phenothiazines and tricyclic antidepressants
• Retinoids such as retinoic acid, retinol (vitamin A) and retinaldehyde

When spending time in the sun or a sunbed, you should avoid photosensitizing agents. Conversely, if you are unable to avoid photosensitizing agents, adjust your UV exposure to avoid sunburn. Certainly, if you have a disease that makes you sensitive to UV, then you should minimize your exposure altogether. In some circumstances, you may not know you’ve ingested or applied a photosensitizing agent. **If you find yourself inexplicably sunburned, even when you’ve taken precautions to avoid it, you may be a victim of a photosensitizing agent.**

“**Excessive avoidance and UV screening is a danger because it does not allow a tan, nature’s own sun block, to develop, and as a result, exposure is likely to cause sunburn.**”

—Dr. Sam Shuster, Author, *The Skin Cancer Cover-up*, and Professor Emeritus, Department of Dermatology, Newcastle University
Superfoods
Oh, You Mean Unprocessed Foods

Man is the only species who tries and usually fails to outsmart evolution. Brilliant chemists process foods in new and tasty ways, but nature gave us unprocessed foods for health and longevity. Today doctors and scientists are rediscovering the health benefits of unprocessed foods. **The funny thing is many are now being called “superfoods,” but in reality they are just ordinary foods—foods nature intended you to eat.**

It turns out food and beverages that are good for your health are also good for your skin, which is your largest, most exposed organ. As you read the short and by no means inclusive list of “superfoods” below, understand that a diet including these foods supports the health of your skin and your body as a whole. Unprocessed foods prolong youth and thwart skin cancer—things chemical sunscreens were never intended to do and can’t do.

**Water**

Water is not technically food, but among other things, it transports nutrients to all of your organs, including your skin. You’ve heard you should drink eight, eight-ounce cups of beverage
per day. There is no scientific basis for this recommendation, but like many things unproven, this too has become dogma. The Institute of Medicine (IOM), the health arm of the National Academy of Sciences, recommends 3.7 liters per day (almost one gallon) of beverages for men and 2.7 liters (roughly 11 cups) for women, more for pregnancy and lactation. Any beverage, including your coffee, counts toward your daily water intake. Roughly 20% to 50% of your water comes from food, so according to the IOM, men should drink up to 12.5 cups, while women should imbibe nine cups per day. Do you find it curious and convenient that these high-volume recommendations came about after the push to sell bottled water?

If you think these recommendations are outrageous and that there is no way you can drink that much liquid, you are right. Nature gave you mechanisms to determine if you are dehydrated—thirst, dry skin, dark urine color, muscle and joint pains, and low energy. If you are thirsty, have dry skin, or urinate dark yellow, consume more beverages. If you are constantly achy and lethargic, drink more beverages. It’s that simple.

Consider adding one additional cup per day to your routine. In one week, evaluate how you feel. Is your skin moister? Do your joints and muscles ache less? Are you more energetic? Add another beverage per day to your routine if you see improvement but are not yet asymptomatic. Forget the one-size-fits-all daily intake of water. There are too many variables, and no one really knows what your daily intake should be. Let nature and your body be your guide.

Berries
Berries, especially blueberries, are packed with antioxidants and phytoflavinoids. They lower your risk of heart disease and cancer, and they are also anti-inflammatory. “Inflammation is a key driver of all chronic diseases, so blueberries have a host of benefits,” says Dr. Ann Kulze, MD, of Charleston, S.C., author of *Dr. Ann’s 10-Step Diet, A Simple Plan for Permanent Weight Loss and Lifelong Vitality*. The richer the color, the more antioxidants your berries have.

**Vegetables**

Broccoli, bok choy, cauliflower, and Brussels sprouts contain the powerful cancer fighter brassinin. Try to eat one of these three times a week.

**Omega-3 Fatty Acid**

Omega-3 Fatty Acid is well known for its health-deriving properties. We are told wild salmon is the best source of Omega-3s and vitamin D, but that is incorrect. Salmon are carnivores, and suggesting hundreds of millions of people eat salmon three times every week is irresponsible and unsustainable. If lions and cheetahs were high in Omega-3s, would you recommend eating them?

Pasture-fed, organic beef, chicken, and turkey, as nature intended, are high in Omega-3s and are a sustainable source of
protein. Eggs from free-range, pasture-fed chickens are high in Omega-3s as well. **Insist your grocer carry locally grown, pasture-fed organic meat and eggs.**

### Tea

White, green, and black teas are all high in cancer-fighting antioxidants. There is evidence that green and white teas contain a higher quality antioxidant known as Epigallocatechin gallate (EGCG). **To maximize the cancer-fighting benefit, dunk your teabag or stir your loose tea for ten seconds, about the time it takes to sing one verse of “Row, Row, Row Your Boat.”** Then let it steep for two to three minutes.

**If you can’t stomach green or white tea, then black tea will do just fine.** Sweeten, if necessary, with no-calorie natural sugar made from the stevia plant instead of honey, maple syrup, cane sugar, or artificial sweeteners. Replace all your sodas and fruit juices with tea to fight cancer and for the added benefit of reducing caloric intake.

### Tomatoes

**Tomatoes have cancer-fighting lycopene**, and heating the tomato makes the lycopene benefits more readily available to your body. Lycopene also reverses photo-aging effects of UV overexposure. Enjoy pizza with tomato slices cooked on top and pasta with plenty of tomato sauce.
Dark Chocolate

Dark chocolate is high in flavonol antioxidants and low in sugar. Flavonol antioxidants may improve DNA resistance to oxidative stress\(^7\). This is not a license to eat more foods made with dark chocolate. Remember: Everything in moderation.

Nature gave you tools to fight oxidative stress from the sun, pollution, exercise, anguish, and living in general. A diet rich in unprocessed foods, high in antioxidants, Omega-3s, and other phytonutrients gives your body the resources it needs to keep your skin young and cancer free.

“No other method to prevent cancer has been identified that has such a powerful impact.”

—Dr. Cedric Garland, vitamin D expert
Sun Smarts
Moderation, Moderation, Moderation

Enjoy the benefits of the sun while minimizing the potential risks of either too much or too little sunshine.

You are a complicated being. You are unique. There are no “one-size-fits-all” solutions to sun enjoyment or anything else in your life. **However, six million years of human evolution has prepared you for survival; it is human intelligence that is in opposition to what nature has intended for you.** Don’t try to outsmart nature. As the synthetic butter commercial ironically says, “It’s not nice to fool Mother Nature.”

Never Sunburn

It is very clear from all the scholarly research that non-burning sun exposure does not increase your chance of skin cancer or skin damage. Therefore, you should never sunburn while enjoying the benefits of the sun. **Never sunburn.**

Temet Nosce – Know Thyself

Everyone has a skin type, and knowing your skin type will help you plan your day in the sun. The accepted rating for skin types is as follows:
<table>
<thead>
<tr>
<th>Skin Type</th>
<th>Sun Sensitivity</th>
<th>Pigmentary Response</th>
<th>Skin Sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>always burns easily</td>
<td>little or no tan</td>
<td>very sensitive</td>
</tr>
<tr>
<td>II</td>
<td>always burns</td>
<td>minimal tan</td>
<td>sensitive</td>
</tr>
<tr>
<td>III</td>
<td>burns moderately</td>
<td>tans gradually</td>
<td>normal</td>
</tr>
<tr>
<td>IV</td>
<td>burns minimally</td>
<td>tans easily</td>
<td>very resistant</td>
</tr>
<tr>
<td>V</td>
<td>burns rarely</td>
<td>tans to dark brown</td>
<td>extremely resistant</td>
</tr>
<tr>
<td>VI</td>
<td>burns almost never</td>
<td>deeply pigmented</td>
<td>insensitive</td>
</tr>
</tbody>
</table>

**Skin Type Chart**

There is an inverse relationship between your ability to tan and your ability to make vitamin D. The darker your skin type, the longer you must stay in the sun to make the same amount of vitamin D than a lighter skin type. Additionally, the darker your skin type, the longer you can stay in the sun without getting sunburn. Fair-skinned people can take less sun and they need less sun, while dark-skinned people can take more sun and they need more sun. Are you beginning to see nature’s plan?

**Know Your Environment**

Here are the most common environmental factors affecting how easily you may burn or tan:

**Latitude:** The closer you are to the equator, the stronger the sun’s energy.

**Shadows:** The shorter and sharper your shadow, the stronger the sun’s energy. Be aware of the length and sharpness of your shadow. You can still burn on a cloudy day, however.
Altitude: The closer you get to the sun, the stronger the sun’s energy. Hiking or skiing in the mountains means you have less atmosphere to filter the sun’s energy than strolling in New York City’s Central Park, for example.

Reflections: Sunlight, including ultraviolet light, bounces off reflective surfaces like snow, water, glass, and concrete. Snow can reflect as much as 80% of the ambient UV. A day on the lake will result in more sun exposure than walking in the forest next to the lake.

Be mindful of your environment and adjust how much time you spend in the sun given your skin type and environment. Remember: You are trying to avoid sunburn, not sunshine.

Protect Yourself

As you have gathered by now, you are trying to avoid sunburn while enjoying the benefits of the sun as nature intended. You have been given natural tools—suntan and sunburn. The former affords protection, while the latter tells you you’ve had too much and it’s time to get out of the sun. Here is the list of most common forms of protection in the order of preference:
Suntan: A suntan is nature’s defense against sunburn; the darker your skin is or gets, the longer you can stay in the sun without burning. Millions of North Americans use professional indoor tanning salons to build a base tan before enjoying the sun. A base tan allows you to stay in the sun four times longer without sunburn than without any base tan.

Shade: When you just want to enjoy the outdoors and it is too hot for additional clothing, you should find the shade of a shelter such as a tree or umbrella.

Clothing: For extended stints in the sun, like landscaping, wide-brimmed hats and clothing provide protection you need to prevent sunburn. A good test for how well your clothing prevents sunburn is to hold the clothing up to the sun and see how much visible light comes through. The less visible light, in general, the more sunburn prevention.

Chemical Sunscreens: Chemical sunscreens are a last resort, because they may cause more harm than help. The CDC has determined that 97% of Americans are contaminated with Oxybenzone, the leading sunscreen chemical. This is a problem because Oxybenzone and other sunscreen chemicals mimic estrogens, disrupting your endocrine system. Oxybenzone is responsible for coral death and causes fish to jump gender from male to female. Chemical sunscreens only prevent sunburn if you follow the directions, one of which is to reapply every one to two hours. Research suggests you must apply every 30 minutes, otherwise the product causes oxidative damage to your skin, exactly what you were trying to prevent. Here are principles for using chemical sunscreens:
(a) The moment you apply chemical sunscreen, you stop making vitamin D, other hormones, natural anti-depressants, and other photoproducts. Counter to current dogma; apply sunscreen after 10 to 30 minutes of unprotected sun exposure, depending on skin type. This will allow you to take advantage of the sun’s benefits while preventing sunburn. By the way, you can only make vitamin D if your shadow is shorter than you are tall; UVB cannot penetrate the atmosphere once the sun angle is less than 45 degrees. For North Americans living above the 37th parallel (Canada and north of Atlanta in the U. S.), you cannot make vitamin D from the sun from October through March. This time of the year is called Vitamin D Winter.

(b) SPF (Sunburn Protection Factor) 15 means you can stay 15 times longer in the sun without sunburn. Since there are only about four hours a day when you can burn, from 10 a.m. to 2 p.m. when UVB is present, use SPF 15 or less, reapplied as directed, to provide sunburn prevention for skin types III through VI. Skin type II should use a combination of clothing, shade, and SPF 15. Sun avoidance is the only option for skin type I because they burn immediately; this skin type should stay in the shade and wear protective clothing.

(c) SPF 45 has 50 times more sunscreen chemicals than SPF 15, making it very bad for the environment. It is overkill. Never use a product greater than SPF 45, as it provides no additional benefit over SPF 45 and is extremely bad for the environment and your endocrine system.

(d) Sunblocks, such as nano titanium, are not any better than chemical sunscreens. The nano technology is designed to prevent the white or silver look of these blocks. The problem is that the metals are absorbed into your bloodstream. Their benefit is their ability to block the entire UV spectrum. The risk of titanium poisoning is greater than any benefit.

Avoid sunburn, first as nature intended with a suntan and shade and then by using clothing and hats to block the sun. If you feel it necessary to put chemicals on your skin, use the lowest SPF chemical, like SPF 15, that will afford you sunburn protection.
and only apply after the first 10 to 30 minutes of unprotected sun exposure. This will give you all the benefits afforded the sun while minimizing the potential risks of either too much or too little sunlight as nature intended.

“Suntan is an evolutionary device; it protects against burning... A suntan is just a sign of increased pigment, melanin, in the skin, and is a natural biological response to the sun, not a sign of skin damage.”

—Dr. Sam Shuster, Professor Emeritus, Department of Dermatology, Newcastle University
Conclusion

It’s Not Nice to Fool Mother Nature

Infantile human discovery and invention cannot and should not replace natural systems developed through millions of years of evolution. You only left Sub-Saharan Africa 12,000 years ago—mere minutes in evolutionary time. **You are attracted to sunshine like you are attracted to food, air, and water.** This comes from your beginnings near the equator. As further proof, all your primate cousins live near the equator, except for those primates held in human captivity. Who do you think knows better?

Lifestyle makes you more a caveman than prehistoric cavemen. Cavemen spent all day under the sun, foraging and hunting and seeking shelter of the cave for protection only. **You, however, live and sleep in a cave, drive in a cave, work in a cave, and shop in a cave.** With the advent of electronic gaming systems and the Internet, you even choose to play in your cave. You are the quintessential caveman. Medical advice to avoid the sun has literally scared you white.

**Sun Scare fabricated an irrational fear of the sun to sell more chemical sunscreen.** Profit trumped health concerns, and for many cosmetic dermatologists, profit trumped the basic tenet of the Hippocratic Oath—first do no harm. Even academics reverse engineered their findings to support the benefactors of the research. Additionally, Sun Scare made a scapegoat out of the professional indoor tanning community. Sun Scare hires top guns to lobby against the community as they are direct competitors to Sun Scare, going so far as to make it illegal to tan indoors in some jurisdictions and assessing a 10% excise tax on the professional
indoor tanning community in the United States. But as Elvis said, “Truth is like the sun; you can shut it for awhile, but it ain’t going away.”

You don’t have to use unhealthy and environmentally hazardous chemical sunscreens to prevent sunburn and consequently skin damage. First, stop using chemical sunscreen as an everyday product. It’s unhealthy and it is killing the environment. **Chemical sunscreens don’t prevent skin cancer, and there is no clear evidence that, as applied, these chemicals prevent or reduce the appearance of aging.**

When sunburn is possible, first consider non-chemical methods, like a suntan, clothing, diet, natural topical treatments, and shelter. When those options are not available, then apply chemical sunscreens, but use the least SPF (Sunburn Prevention Factor) that will prevent sunburn for your skin type. **For most people, when applied properly, SPF of 15 or less is sufficient to prevent sunburn.** You, too, should first do no harm to yourself and the environment.

**Nature got it right; you need sunshine like you need food, air, and water. Never sunburn.**

“Humans make thousands of units of vitamin D within minutes of whole body exposure to sunlight. From what we know of nature, it is unlikely such a system evolved by chance.”

—Dr. John Cannell, Executive Director, Vitamin D Council.
About the author

Recently Dr. Don suggested to his wife that he wants to go back to school and earn a PhD, to which she quipped, “With your next wife!” So in the spirit of Dr. Seuss, Dr. Don has given himself an honorary doctorate and writes under the pseudonym Dr. Don.

Dr. Don writes a health and wellness blog at www.SPFZero.org. The topic is especially personal because both of his parents died of cancers related to sunshine deficiency. Follow his blog at www.SPFZero.org and like SPF Zero’s Facebook page at www.Facebook.com/SPFZeroBook. Dr. Don also speaks professionally; you may contact him at SPFZero@comcast.net for comments or to set up speaking engagements.

Over the last 13 years, Dr. Don has reviewed hundreds of research studies, delivered dozens of speeches, written countless blogs, and is here to say,

“Nature got it right; you need sunshine, like you need food, air, and water. Just never sunburn.”


21 http://www.ewg.org/node/26212.


26 http://www.ewg.org/node/26212.

27 http://www.youtube.com/watch?v=Cq1t9WqOD-0.


29 Grant, W. B. (2009). Critique of the International Agency for Research on Cancer meta-analyses of the association of sunbed use with risk of cutaneous malignant melanoma Dermato-Endocrinology 1(6), 294-300


43 2006 to 2008 SAMHSA National Surveys on Drug Use and Health (NSDUHs).

44 Aronson, Wilson, Akert. (2010). “Most of us have moderate to high self-esteem. Like the mythical residents of Garrison Keillor’s Lake Wobegon, we need to believe that we are above average. For example, in a survey of a million high school students, only 2 percent stated that they were below average in their leadership ability (Gilovich 1991)”, Social Psychology, 150: 9780138144579

45 Svenson, Ole. (1981). “We are all less risky and more skillful than our fellow drivers,” Acta Psycologia, 47: 143-8.

46 https://smarttan.com/blog/?s=referred.


50 iPhone App Store, April 19, 2011.


“Drink at least eight glasses of water a day.” Really? Is there scientific evidence for "8 × 8"? by Heinz Valdin, Department of Physiology, Dartmouth Medical School, Lebanon, New Hampshire.

http://iom.edu/Activities/Nutrition/SummaryDRIs/~/media/Files/Activity%20Files/Nutrition/DRIs/Total%20Water%20and%20Macronut.pdf.

http://www.factsmart.org/h2o/h2o.htm

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