



**RESOUNDING RESPONSE TO OUR FREE NEWSLETTER**

We would like to express our gratitude to those clients who took the time to write, call, and email us about our first quarterly newsletter released August 2006. Many of you found helpful information and posed stimulating questions to our staff. Thanks to all our readers for your input.

**CHEMOTHERAPY-RELATED HAIR LOSS**

So why does hair fall out during chemotherapy? In order to understand why hair falls out during chemo, it's necessary to first understand cancer. Cancer is the disorderly and rapid proliferation of a particular cell type in the body. The mechanism that controls the rate of cell division has, for some reason, been switched off in the cancerous cells so they divide at a much higher rate than healthy cells. We all have cancerous cells in our body all the time. Normally, the body's immune system can detect these errant cells and destroy them, but for some reason the immune system can't always recognize cancerous cells as "invaders" because they arise from the body's own cells. This unchecked cell division usually forms an amorphous tumor (a tumor with an irregular shape) because the cells have lost their ability to coordinate with each other. Chemotherapy is the process of introducing poisons into the body that adversely affect these rapidly-dividing cells in order to kill them, but there are some other types of cells in the body that also divide rapidly. These "good" cells are found in the stomach lining which must be rapidly replenished because they are constantly bathed in stomach acid. Also in this group are the cells that produce hair. Hair is made by cells that rapidly form at the base of the hair shaft, die, form a hard "cuticle," and are pushed up and out of the hair follicle as they are built up from underneath. Chemotherapy kills these cells but fortunately they can come back. We hope with chemotherapy that the cancer cells are unable to recover. We call this "remission."

The good news is that nearly all patients experience new hair growth immediately following the last round of chemo. This new hair often grows back a different color, finer, or coarser than it was before. Eventually the hair will go back to its previous appearance after it gets a chance to grow for a while. Once the natural growth cycle has resumed, Minoxidil can be effectively used to stimulate new hair growth over and above that which comes back after chemo. It's important to remember that even during chemo, though the hair follicles are not producing hair, it's still important to maintain good hygiene. If the hair follicles become plugged with sebaceous deposits, then when they begin growing hair, the result might be similar to ingrown hairs or pimples. Keep up with your hygiene program (except Minoxidil) all the way through your chemo treatment.

**RESPONSIBLE SUN PROTECTION ADVICE**

When Marianne Berwick, Ph. D., M. P. H. presented her findings on the use of sunscreens to the AAAS on February 17, 1998, media attention reached a state of panic. In interviews in the CBS Evening News and on the ABC website, Dr. Berwick further stated that "blanket advice to the public to wear sunscreen as protection against . . . skin cancer . . . is unwarranted." She also explained that the only reason to wear sunscreen is to prevent a sunburn implying that skin cancer is not somehow related to sun exposure. Dr. Berwick contacted the American Academy of Dermatology claiming that her statements had been misrepresented by the media. In response, Roger I. Ceilley, MD, AAD and Dr. Berwick exchanged correspondence touching on the major points of the controversy.

Dr. Ceilley raised concern that Dr. Berwick might have created a misconception that "may lead millions of Americans who are heading south for spring breaks and vacations to ignore sunscreens, get burned, and . . . develop skin cancers. For many individuals, sunscreens are the most practical means of solar protection during outdoor activity . . . At a time when the medical professional community was finally getting the message about sun safety . . . the public is now again confused." (i)

When asked about the response from the clientele in her dermatology practice in Houston, Texas, Esta Kronberg, M. D. stated that "People were shocked by that [Dr. Berwick's report] . . . and very disbelieving. The people that came to me . . . did not have to be convinced that there was something very wrong . . . People who are already being good about sunscreen and know the importance of it [weren't deterred], but it might have deterred people that we haven't convinced yet . . . [Dr. Berwick] erased about fifteen years of work that the American Academy of Dermatology and dermatologists have tried to promote . . . There were a couple of studies (that found no relationship between sunscreen use and skin cancer) and the other [several] studies all said the opposite so they just pulled out what they wanted." (ii)

Dr. Kronberg has specialized in dermatology since 1985 and has seen much of the advancement of sunscreens over the years. "It's actually one of the least expensive things you can do for yourself. Ultimately, [our goal] is to prevent skin cancer [and] to decrease aging and wrinkling." (iii)

One concept that has been frequently overlooked is that there is a latency of ten years or more between ultraviolet exposure and the appearance of related disease. Only in extremely severe cases of exposure is the damage readily apparent. Since many of the studies cited by Dr. Berwick were conducted before high SPF sunscreens became available in the late eighties and, as Dr. Berwick admits, patients often show "poor reliability in terms of [their] recollection of their sunburn histories," (iv) then this ten year latency would seem to make newer studies more important than the older ones.

**FEATURED PRODUCT**

**PRO-TECT®**

**PRO-SPECTRUM™**

**Broad-Spectrum UVA/UVB Sunscreen**

Here's an interesting point. "Waterproof" does not mean that a sunscreen will stay on! Mineral oil is waterproof, but just because it won't mix with water doesn't mean that it will stay on. Here's how good Pro-Tect® sunscreens are.

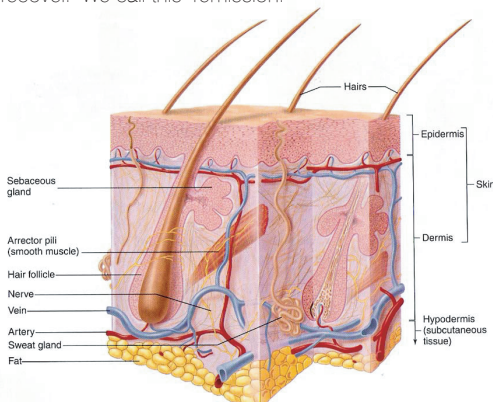
I put Pro-Tect® SPF 20 on in the morning after showering and I can go to the beach all day (sun, sand, water, changing clothes, drying off, etc) without reapplying. I am a fair-skinned mix of german, czech, and polish and my skin turns pink in 20 minutes of sunlight, but with Pro-Tect® SPF 20 I only get a touch of color in 8 full hours of sun. Now that's how you make a sunscreen!

W. T. Loesch III, Vice-President

Until more recent studies are completed, why not side with the old axiom that an ounce of prevention is worth a pound of cure?

While it is true that UVB exposure has been the primary suspect with problems such as premature aging of the skin and increased risk of skin cancer, scientists and researchers are discovering new evidence which shows that UVA may also cause an increased risk of skin cancer. When choosing a sunscreen, be sure to find a sunscreen that offers broad-spectrum protection. The FDA allows any sunscreen that can show moderate UVA absorption to make the broad-spectrum claim, so contact the manufacturer of your sunscreen and request a UV absorption spectrum graph. By comparing several different graphs, you can assess the protection a product offers in relation to other comparable sunscreens of approximate SPF values.

Dr. Berwick was quoted in Skin & Dermatology News as stating "I now realize why no one wants to touch this subject . . . Although my study found no relationship between the use of sunscreen and melanoma, it doesn't suggest that people should stop using sunscreen, as some people in the press have suggested." (v) The concern many researchers have in this area is that people may be using sunscreens with the notion that sunscreen makes them invincible. This could lead to an increase in UV exposure to unprotected areas



This illustration shows the structure of the hair follicle. Because the cells at the bottom are growing rapidly, they shut down during chemo.

Unfortunately, Minoxidil won't prevent this type of hair loss, because it is caused by an event...poisoning. Other events can also cause hair loss like sudden fright, immense stress, a serious injury, or severe trauma. Minoxidil is a hormone that causes the hair to remain in the natural hair growth cycle for longer than normal resulting [for most people] in more hair shafts and healthier overall hair condition. Because the natural hair growth cycle is severely disrupted by chemo, Minoxidil can do nothing while the poisons are in the patient's system.

... of the skin, such as the tops of the ears, and the eyes. Sunbathers might be receiving dangerous doses of UV as these unprotected areas bake in the sun for hours because the rest of the skin is not burning.

Other concerns include the fact that, while people may think that they avoid the sun, many do not consider the drive to work or sunlight through glass to be significant exposure. Glass offers some protection from UVB, but UVA penetrates glass. UVA has also become suspect as researchers learn more about the mechanisms of cancer.

As an industry, we bear the responsibility to make a profit. As a society, we also bear the responsibility of protecting the innocent. New and better sunscreens are being introduced rapidly as new chemicals and technologies become available. What is needed is a strong, continuing effort toward education. Industry must continue to stress the use of sunscreens as major component in practicing safe sun; however, the best protection is a complete regimen including shade, protective clothing, hats, and sunglasses. Consider Coppertone's image from the 70's of the little girl on the beach with her dog pulling on her bathing suit. That image has recently been changed to a little girl with a hat, sunglasses, a T-shirt, a dog, and a bottle of sunscreen. Until such time as the usefulness of sunscreens is disproven, the sunscreen giants should continue to pursue products which are both profitable and ethical. One of those products must be education.

### Media Misunderstanding?

(Excerpt from Dr. Berwick's letter to Dr. Ceilley)

"Like you, I strongly agree that sunscreen is an excellent component of a good sun protection program and regret that some of the media coverage did not adequately convey this important message . . . Briefly, I examined a total of 10 epidemiological studies (including one of my own) that showed [a] possible association between the use of sunscreen and the development of melanoma skin cancer. My findings showed that the data from these studies were conflicting, that in five of the studies, there was a positive association between sunscreen use and the development of melanoma; that in three (including my own) there was no association at all; and that in two there was a significant protective effect between sunscreen use and the development of melanoma. I also found flaws in the epidemiologic evidence for the usefulness of sunscreens to prevent skin cancer . . . I hope this clears up any misunderstanding." (vi)

(i) Ceilley, Roger I., M. D., AAD, Dermatology World.

(ii) Interview with Esta Kronberg, M. D., Board Certified Dermatologist, May 6, 1998, 1:00 p. m.

(iii) Interview with Esta Kronberg, M. D., Board Certified Dermatologist, May 6, 1998, 1:00 p. m.

(iv) Ceilley, Roger I., M. D., AAD, Dermatology World.

(v) Childs, Nathan D., Skin & Allergy News, Vol. 29, No. 4, April 1998.

(vi) Ceilley, Roger I., M. D., AAD, Dermatology World.

## HEALTH BENEFITS OF VITAMIN D

There has been some discussion in the news media recently about Vitamin D and how Americans aren't getting enough due to dietary deficiencies and the widespread use of sunscreens. We thought we might try to distill some of this information and to alleviate some of the confusion many people have about sun exposure, dietary supplements, and Vitamin D.

Vitamin D is needed for the metabolism of calcium and phosphorus in the body, which, in turn affects how calcium is deposited in the bones; thus it is considered essential for proper bone development and growth. Major symptoms of Vitamin D deficiency rickets include bone disease, restlessness, and slow growth. This disorder is rare in the United States but is not uncommon in certain areas of the world. (i) In the 1930's, American doctors recognized that Vitamin D was essential for

the proper formation of skeletal structure and the American government decreed that milk be fortified with Vitamin D. Within a few short decades, rickets was nearly eradicated in the United States. Unfortunately, it's on the rise again primarily due to dietary choices and lack of sun exposure.

Dr. Cedric Garland of the University of California, San Diego has conducted extensive research on the beneficial effects of Vitamin D on human physiology and, in 1980, published a study showing that a daily intake of 1000 IU's (international units) of Vitamin D may cut the risk of colon cancer by 50%. Theoretically, doubling the intake to 2000 IU's would reduce the risk by 66% said Dr. Garland. His study was based on the fact that people living in the northeastern US which gets little sun were twice as likely to develop colon cancer as those living in sunny southern states. Michael Holick, MD, a Vitamin D researcher at Boston University, explains that "almost every tissue and cell in the body has receptors for Vitamin D, which means that every tissue and cell needs Vitamin D to function maximally." (ii) Researchers have identified many types of cancer risks that can be reduced or prevented by sufficient Vitamin D intake, but it seems that researchers and dermatologists do disagree on one thing . . . getting it from the sun.

When your skin is exposed to ultraviolet light, it produces Vitamin D, but too much sun can cause sunburn and lead to skin cancer, premature ageing of the skin, and other health problems. Catherine Gordon, MD, a pediatric bone specialist at Children's Hospital, Boston, tested over 300 teenagers thought to be healthy and found that 24% were Vitamin D deficient. Studies have shown that supplements of Vitamin D can lower certain contributing factors of heart disease, hypertension, multiple sclerosis, diabetes, rheumatoid arthritis, gum disease, and many other conditions. Most multivitamins provide 400 IU's of Vitamin D which is the level the government determined was sufficient to prevent rickets, but with the widespread D deficiency in youth across the US, the USFDA of Vitamin D will be re-examined and may be raised to 1000 IU's or higher.

**Now here's a real kicker!** In a study which exposed prostate cancer cells to Vitamin D, the prostate cancer cells stopped reproducing wildly and resumed normal, orderly growth. Later studies showed that the same process occurs in colon and breast cancer cells. Now, we're not suggesting that you immediately begin loading your diet with vast amounts of Vitamin D, but levels up to 2000 IU's daily are generally considered safe and with prostate cancer on the rise in American men, what's the harm in helping nature do her thing naturally? Signs of excess Vitamin D include elevated calcium levels, confusion, and bizarre behavior, however you can't overdose on Vitamin D from the sun. Once your skin has made enough for the day, the process turns itself off. On days when you don't get any sun, taking a supplement would be a good idea.

(i) WebMD Medical Reference from the National Organization of Rare Disorders.

(ii) Reader's Digest, September 2006, "The Miracle Vitamin," Paula Dranov.

## COMBATting MALE PATTERN BALDNESS

Blame it on mom. The genes that determine if you will experience male pattern baldness are associated with the X chromosome, so a good indication of whether you will lose your hair is your mother's father. Male Pattern Baldness is the result of exposing an androgen-sensitive gene in the hair follicle to the increased levels of male hormones that start up during puberty. Did you know that if you have the gene for androgenic alopecia but are prevented from going through puberty for some reason, you will not go bald? It's been demonstrated by numerous cases of accidental or medically necessary castration before puberty, birth

defects that affect the maturation process, and other conditions that prevent some people from going through puberty. If you are genetically predisposed to lose your hair, it's going to happen eventually no matter what you do. That gives a balding man three choices: let it happen, use treatments to delay the effects as long as possible, undergo surgical hair transplantation. This article focuses on treatments rather than surgery.

Finasteride (Propecia) blocks DHT, a potent androgen that turns off the hair growth genes in specific areas of the scalp in men who are androgen-sensitive. Men using finasteride do stop losing their hair, but they also experience decreased sexual performance and desire. Women who are or could become pregnant must not come in contact with finasteride at all because it can cause certain birth defects.

Loniten was first used as a blood pressure regulator. During studies, patients experienced increased hair growth in strange places like high on the cheeks and on the back of the hands. Industrious researchers soon learned how to deliver this drug, now called Minoxidil, topically to localize the effects to the area being treated. In short, Minoxidil lengthens the hair growth cycle and encourages new hair growth. This has only been studied on the scalp, so that's all it's FDA approved for.

There's another contributing factor not mentioned by the studies. Typically doctors don't recognize this as a problem, but we have over 50 years of data that proves that increased sebum exposure beginning with puberty contributes greatly to hair loss. Put simply, when a boy goes through puberty, hormone levels rise dramatically in order to switch on the genes that will make him sexually mature. These genes speed up bone growth, kick-start sperm production, and increase sebum production. This is often evidenced by teenage acne on the face and upper back. During puberty, the scalp is bathed in a light, oily type of sebum. As puberty winds down, sebum production is reduced, but not to pre-teen levels. Also, the sebum turns thicker, more waxy, and tends to collect in the hair follicles rather than flowing out as it should. Regardless of the treatment you choose, it's vital to have a good hygiene system. That means more than just shampoo and conditioner. That means a system like ours (go figure!) that is designed specifically to remove every kind of sebum from oily to waxy. In this way, you can maximize your treatment program and get your money's worth.

## SUGGEST A TOPIC FOR THE NEXT NEWSLETTER

To suggest a topic for a future issue of this newsletter, send an email to [sales@loeschlab.com](mailto:sales@loeschlab.com) or send a letter to the address below. While we can't review every topic in this publication, we welcome your input and advice.

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