IF YOU HAD CANCER

Skin cancers may be our greatest scourge. More American men will develop the disease this year than will get prostate, lung, or colon cancer combined. And you could be among the thousands who die—unless you open your eyes.

BY CHRISTOPHER MCDONALD
NOW THAT SKIN CANCER HAS BECOME AN EPIDEMIC, there's a good chance you're either a Chris Dale or a John Flanagan.

That means you're twenty-something and starting to get both hands around a real relationship and career—the Chris Dale scenario. Or you're pushing 40 with a little money under your belt, and a little flab over it—a la John Flanagan. You've had that sun-spot, or birthmark, or whatever it is, for years, but it's never grown or even itched. How could you know that it's silently, painlessly ticking toward eruption?

You may escape death, depending on which description you fit. Still, death will leave a calling card: You'll have scars on your face, arms, and back, and a suspended sentence hanging over your head, because far more aggressive skin cancer could suddenly appear at any time for the rest of your life.

But you'll be the lucky one.

THERE ARE BASICALLY two types of skin cancer—lethal and disfiguring. The lethal kind is melanoma. It killed Bob Marley and Burgess Meredith, and might have killed Troy Aikman at the start of the 1998 NFL season and John McCain during the 2000 presidential campaign if they hadn't been saved by speedy surgery. Worldwide, one person will die of melanoma every hour, because the disease is fast and extremely aggressive: Once it penetrates your skin and enters your bloodstream, it can travel with nightmarish nimbleness, attacking your brain and every other organ in a matter of weeks.

Basal-cell and squamous-cell carcinomas, on the other hand, very rarely kill. They're the disfiguring type of skin cancer, munching away at your face and chest and arms like a flesh-eating virus. Left untreated for too long, they can cost you chunks of your ears, cheeks, chest, and arms. Nearly 1 million Americans have basal-cell carcinoma, and if you add in cases of squamous cell and melanoma, skin malignancies rank as the most common cancer in the United States. They're also among the most predictable cancers, usually attacking older, fair-skinned people who've spent decades under blazing rays. Or at least that used to be the profile. Dermatologists have recently noticed that a rising number of their cancer patients are remarkably young. "It's becoming a regular occurrence: A 30-year-old has a red spot on his cheek that doesn't go away, and he can't believe what I have to tell him," says Roger Ceilley, M.D., who has observed legions of sun-tanned teens and sunbaked farmers in his dual roles as a practicing specialist and clinical professor of dermatology at the University of Iowa. Another dermatologist in Boston, David Horne, M.D., adds, "I recently treated an 18-year-old with skin cancer, which would have been unheard of 10, 20 years ago."

Last August, researchers at the Mayo Clinic confirmed in the lab what Dr. Ceilley and other dermatologists have been seeing in the field: Skin-cancer rates are shooting up among people under 40. According to the study, only 18 out of every 100,000 Americans under age 40 were diagnosed with basal-cell carcinoma in the 1970s; today, that rate has jumped to nearly 30 per 100,000. Squamous cell has become even more prevalent: It has quadrupled in the under-40 population. Formerly afflicting one in every 1,000,000 people, it now attacks four per 100,000.

This new battlefield in the war on cancer has emerged just when other key fronties are reporting progress. Leukemia, lung cancer, and colon cancer are all on the decline, thanks to medication, prevention, and early detection, but rates of melanoma—which should be the easiest cancer to prevent and detect—have nearly doubled over the past decade. The outbreaks have become so prevalent that the Skin Cancer Foundation estimates that within the next 5 years, one in every 50 Americans will have melanoma.

"These are truly frightening developments," says Randall K. Roenigk, M.D., coauthor of the Mayo Clinic study and chairman of the department of dermatology at the clinic's college of medicine, in Rochester, Minnesota. "Something that is largely preventable not only has become epidemic, but also keeps on accelerating." Dr. Roenigk thought he'd lost the capacity for surprise by the time he'd finished compiling data for the study, but even he was startled when he recently found skin cancer gnawing at the nose of a patient—who was only 12 years old.

Unlike the mysterious origins of most diseases, tracing this epidemic back to its beginning is fairly simple: The seeds were sown 50 years ago, most likely in California, when suntans went from stigma to fashion statement. Before that, a ruddy bronze glow was mostly reserved for farmhands and stevedores. "It used to be associated with the lower classes, the laborers," says Dr. Horne. "Only in our lifetime have people begun lying in the sun to 'improve' their appearance—now they're paying for it."

We could also be paying the price for abusing the environment as badly as we've abused our skin, Dr. Horne adds. "If the ozone layer is thinning as rapidly as some believe, then increased ultraviolet intensity would certainly be a factor," he says. "We haven't been measuring the UV index for very long, so it's impossible to say whether the increased cancer rates come from more expo-sure-more people spending more time in the sun—or a greenhouse effect, but it could be a combination of both."

But whether we're being punished for neglecting nature or ourselves, men are taking the brunt of the hit. You might think of female skin as being more delicate and consequently more vulnerable, but the truth is, men face a much higher skin-cancer risk than women. We're twice as likely to develop basal-cell or squamous-cell cancer and significantly more prone to melanoma (a one-in-58 chance, as opposed to one in 82 for women). Men are also
more likely to die of melanoma, with an estimated 4,930 succumbing last year, compared with 2,860 women.

Breasts are the major reason men are more susceptible. Because guys don't have them, they spend more time shirtless in the sun. "Melanoma in men is most common on the upper back, where it can grow deep and thick," explains Diane Berson, M.D., an assistant professor of dermatology at Cornell University's Weill Medical College. "That's not surprising, when you consider that from an early age, they're outside with their shirts off cutting the lawn, raking leaves, playing sports. They can have melanoma for a long time and think it's only a freckle."

--- THE DERMATOLOGIST ONCE TREATED A MAN WITH A TUMOR 9 INCHES LONG ON HIS CHEST. ---

CHRIS DALE'S SISTER AMANDA had seen that mole on his scalp for years, ever since Chris got his hair buzzed high and tight for the army. But it wasn't until the spring of 2004, after she'd taken a "skin-care essentials" class in her massage-therapy school that she realized it could be more than a birthmark and began nagging him about seeing a dermatologist.

Chris must've told Amanda a million times that he couldn't afford a doctor's bill. He'd just been discharged from the military because of his bad knees, and at 24, he was still working only part-time for the sheriff's office and not yet eligible for health-care coverage.

Besides, the army docs had scoped him out from tip to toe when he was inducted the year before, and even more thoroughly when he was medically discharged 6 months later. He wasn't any big sun worshipper, either. Sure, he'd hung out at the beach-after all; he lived in St. Augustine, Florida, and spent a few childhood years in the U.S. Virgin Islands, thanks to his dad's National Park Service job. But if he was spending a day in the sun, it was usually in a wool uniform. Chris had been a war buff since he was barely out of diapers, shooting his own black-powder musket by the time he was 5 and using his vacation time to attend Civil War reenactments. Besides, he snorted to his sister, he didn't even have a tan; his skin was as pale as his white T-shirt, and when he patrolled the beach on his sheriff's department ATV, he slathered on plenty of sunscreen.

"But Amanda, being a Scorpio and an older sister, had to have the last word," says Pattie Dale, Chris's mom. "She said she'd pay for it herself, and even make the appointment with her dermatologist." Chris grumbled his way to the doctor's office, and sure enough, it was just a benign birthmark. "Nothing to worry about," the doctor said. But the next day, the doctor called back. He'd had the mole biopsied, just to be sure, and discovered he'd made a mistake. Chris had melanoma.

Meanwhile, in New York City, John Flanagan was planning a getaway to the Hampton's. All you'd need is a glimpse of his blond Hollywood shag and wraparound mid-night shades to guess that John would never miss winters in the Caribbean or summer weekends on an exclusive beach. Right before he left, though, he surrendered to his...
A single forgetful day can be all it takes to endanger your life, warns William Gallagher, Ph.D., the lead scientist of a groundbreaking new study examining why men are more likely than women to die of melanoma. If you neglect to smear on SPF one time, you’re already at risk: One blistering sunburn in childhood can more than double your chances of developing the disease.

Last year, Gallagher’s team at the UCD Conway Institute of Biomolecular and Biomedical Research, in Dublin, began examining the DNA of cancer cells from a young man with melanoma. What they discovered was an association between aggressive melanoma and an odd mutation that exists only on a gene in the Y chromosome—which, of course, is present only in males. “It’s a striking, very strange gene,” Gallagher explains by phone from Ireland. “If the gene is turned off, you appear to have thick, aggressive melanoma tumors. If it’s turned on, you tend to have thinner, nonaggressive melanomas.”

The thicker the melanoma tumor, the slimmer your hopes of survival: Thickness is ranked on an escalating scale from Level 1 to Level 5, and the chances of beating even Level 3 or Level 4 melanoma are only about 50 percent.

“Men really have a double whammy, because another feature of more aggressive melanoma is drug resistance,” Gallagher adds. “So not only is it spreading more rapidly, but it’s also far more difficult to treat.” Gallagher’s next challenge is finding out whether the gene is actually a trigger or just a red flag that goes up when the melanoma mechanism is activated. And if it is...
a trigger, as his evidence suggests, what role do the sun's rays play in tripping it? Is there a specific amount of ultraviolet light that can flip the switch?

Ultraviolet light has already been established as the prime mover in less-lethal forms of skin cancer. According to the Skin Cancer Foundation, more than 40 percent of all skin cancers are caused by sun exposure, while regular sun protection throughout childhood can reduce the risk of the disease by a staggering 80 percent. "Your DNA actually gets broken when sunlight hits the cell," says Dr. Roenigk. "That's all a suntan is-broken cells trying to rebuild themselves. But over time, the damaged cells get tired and don't rebuild themselves as well."

So, once again, technology rides to the rescue-tanning beds are the answer, right? "They're actually more dangerous," says David Goldberg, M.D., a Manhattan-based dermatologist and vice president of the Skin Cancer Foundation. "They're terrible." One misconception is the notion that tanning beds are safer than natural light because they don't cause sunburns. "There are two types of UV light-A and B. Type B causes burns, but type A actually penetrates deeper and causes more long-term damage. And it's type A you find in tanning beds," Dr. Goldberg explains. "That is one industry that's long overdue for regulation."

If you're fair-skinned, you should actually be thankful for the burn warning UVB light provides. "Darker-completed men who don't burn think they're invincible," says Dr. Berson. True, they do have a natural advantage, since melanin-the pigment in our skin-helps screen the deeper layers of the epidermis. But your Sicilian granddad says Dr. Berson. True, they do have a natural advantage, since melanin-the pigment in our skin-helps screen the deeper layers of the epidermis. But your Sicilian granddad doesn't guarantee you unlimited nude-beach privileges: Just because your skin tans more gently doesn't mean it isn't being invisibly damaged.

"At least a lighter-skinned person gets the heads-up of a sunburn once in a while and takes precautions," says Dr. Berson. "But you'll find other men outside all the time with their shirts off, who could be slowly developing something that goes undetected until it's too late."

In July 2004, a few weeks after he learned he had Level 2 melanoma, Chris Dale submitted to the scalpel again. His dermatologist had previously removed the surface layers of his mole, but now that they knew it was malignant, a surgeon would cut deep into Chris's scalp and try to slice out every trace of the tumor before it spread.

"I'm going to beat this," Chris said, and he wasn't just being defiant. He was young, and the disease had been caught when it was only a few layers deep. Plus, Chris was taking all the right steps, no matter how painful. He was scheduled to begin training as a co-rectors officer that autumn, but he decided to start chemo right away, even though it meant he'd be nauseated and exhausted.

Chris injected the drugs at night, hoping to sleep off the effects, but he still had to stagger through many days at the academy. Somehow, he fought through; he became one of the top marksmen in his class and was appointed squad leader. And, come October 2004, he received an even better reward: A CT scan showed that his body was tumor-free. Thrilled, Chris and his fiancée, Mandy, began planning their wedding. They'd have it next fall, they decided, after he graduated from the corrections academy and began full-time work with the sheriff's office. "You never saw a guy with a bigger Howdy Doody grin," one of his instructors recalled.

About that time, up in New York, John Flanagan was making a second visit to his dermatologist. Again, the doctor insisted that John needed to have his sun spot analyzed, but there was something he just couldn't make the doctor understand: John always spent Christmas on St. Barts. Seriously, how could he go walking around one of the world's toniest island resorts with some thuggish-looking bandage on his face?

Besides, the spot didn't look any worse, so what was the hurry? He'd deal with it when he got back.

Luckily, a fantastic device that can detect early-stage skin cancer has already been invented. You've got one, in fact.

"Men look at themselves in the mirror every day when they shave," says Dr. Roenigk. "Don't they notice that spot on their face and wonder, Hey, where'd that come from? Of all the cancers, this is the only one you can actually see!"

And yet denial can be blinding. Dr. Roenigk once treated a man in his 40's with a tumor nearly 9 inches long on his chest. The man came in only because his golf club banned him from the showers—he was bleeding all over the towels. What that golfer lacked in self-preservation and basic hygiene, he made up for in luck: The tumor was basal cell, not melanoma, so even though it had penetrated between his ribs, he survived.

Caught early enough, melanoma is a relatively easy cancer to control, because it can be attacked without having to open the skull or operate around.

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delicate internal organs. But control isn't the same as a cure; surgery and chemotherapy can usually wipe out the tumors, but only temporarily. Melanoma is notoriously tenacious and a constant threat to reappear, so the best you can hope for is a tie, never outright victory.

Long-term solutions could be available within the next few years, but only on the preconditions of early detection. Gallagher is experimenting with decitabine, a medication he believes may reactivate the non-aggressive-melanoma gene in men. "We're hoping to find a focused dosage that could be viewed as a prototype," he says. "In our experiments with mice, we've been able to dramatically reduce the size of the tumor and almost eradicate it."

A custom-made melanoma vaccine may also be on the way from the U.S.-based company Antigenics. Currently in late-stage testing, Oncophage is created from a patient's own melanoma tumor: Doctors extract a supply of "heat-shock proteins," a type of protein produced when cells are under extreme stress. Because heat-shock proteins contain antigens, injecting them back into the bloodstream signals the immune system to attack the tumor cells and leave healthy cells alone. Oncophage isn't nearly powerful enough to destroy entire tumors, but it could be an antidote against recurrences. Once the melanoma has been surgically removed, the vaccine could help the immune system overwhelm new tumors before they have a chance to develop, says John Kirkwood, M.D., the director of the melanoma center at the University of Pittsburgh Cancer Institute. "Men's ears should be perking up, because of their heightened risk."

Curiously, sunlight may also reduce melanoma's capacity to kill. According to researchers at Memorial Sloan-Kettering Cancer Center, a study of 528 patients with early-stage melanoma shows that those who'd had the most sun prior to diagnosis stood a better chance of survival. One plausible theory is that vitamin D, produced by exposure to the sun, helps slow the spread of cancer. Another possibility is that the sunlight breaks down collagen in the skin, turning it into a barrier that blocks the melanoma from penetrating into the blood or lymphatic system. But whatever the explanation, it's still a painfully weak blessing: Better to avoid excess sun and never get cancer in the first place than hope a few more rays will blunt it.

"At this point, you can't hope to outguess melanoma and head it off at the pass," says Gallagher. "It may disappear and lie dormant for years, then reappear with frightening voraciousness. There are two things you can never underestimate about skin cancer: speed and unpredictability."

In May 2005, Chris and Mandy had to change their wedding plans. He'd gone in for another CT scan, and the tumors that had vanished months before had sud-enly reappeared throughout his body. "It was bizarre," says Mandy. "He suddenly had lumps on top of lumps."

By the time the radiologists were finished counting, they'd discovered 70 tumors in Chris's abdomen, brain, lymph nodes ... everywhere. He was immediately started on the most powerful barrage of chemotherapy his oncologist thought Chris could survive, including the newest and most aggressive protocol available, a regimen of high-dose interleukin-2. His family scrambled to put together a wedding for Chris and Mandy in 5 days; no matter what, the couple was determined to keep on living, and fighting.

Chris made it to his 25th birthday. On October 9, he was wheeled from the hospital to a surprise birthday party, where his friends and "family" from the sheriff's department turned out by the hundreds to wish him well and cheer him on. "I've got too much to live for," Chris told his kid brother, a soldier who'd rushed home from duty in South Korea to make the party. Two weeks later, Chris died.

"I still can't believe it," Mandy says. "To go from a mole to a funeral home—it's so strange. When I tell people what killed Chris, they go, 'A mole? How can a mole kill anyone?' They see all these ads and fund-raisers for breast cancer and don't realize that it isn't nearly as lethal as skin cancer."

Somehow, John Flanagan got the break that Chris Dale couldn't find. The same month that Chris and Mandy were being married in a hasty, death-cheating wedding on the beach of St. Augustine, John was finally having a biopsy performed. The doctor found melanoma on his back and basal-cell carcinoma on his face and arm.

"I have an 8-inch scar on my back," John Flanagan tells me one afternoon in New York. He also has a bandage beneath his eye and another on his arm. "Every aspect of my life is changed," he says. It's not the scars that worry him; it's the loneliness of being an early prophet in a world that has yet to get the message about melanoma. "If I want to run or play tennis, or my girlfriend wants to go to the beach, what do I do?" John asks. "You know what America is like—we associate a tan with being healthy and successful. So I'm going to spend my life as the pasty-faced guy?"

He doesn't wait for an answer. "I know the alternative."