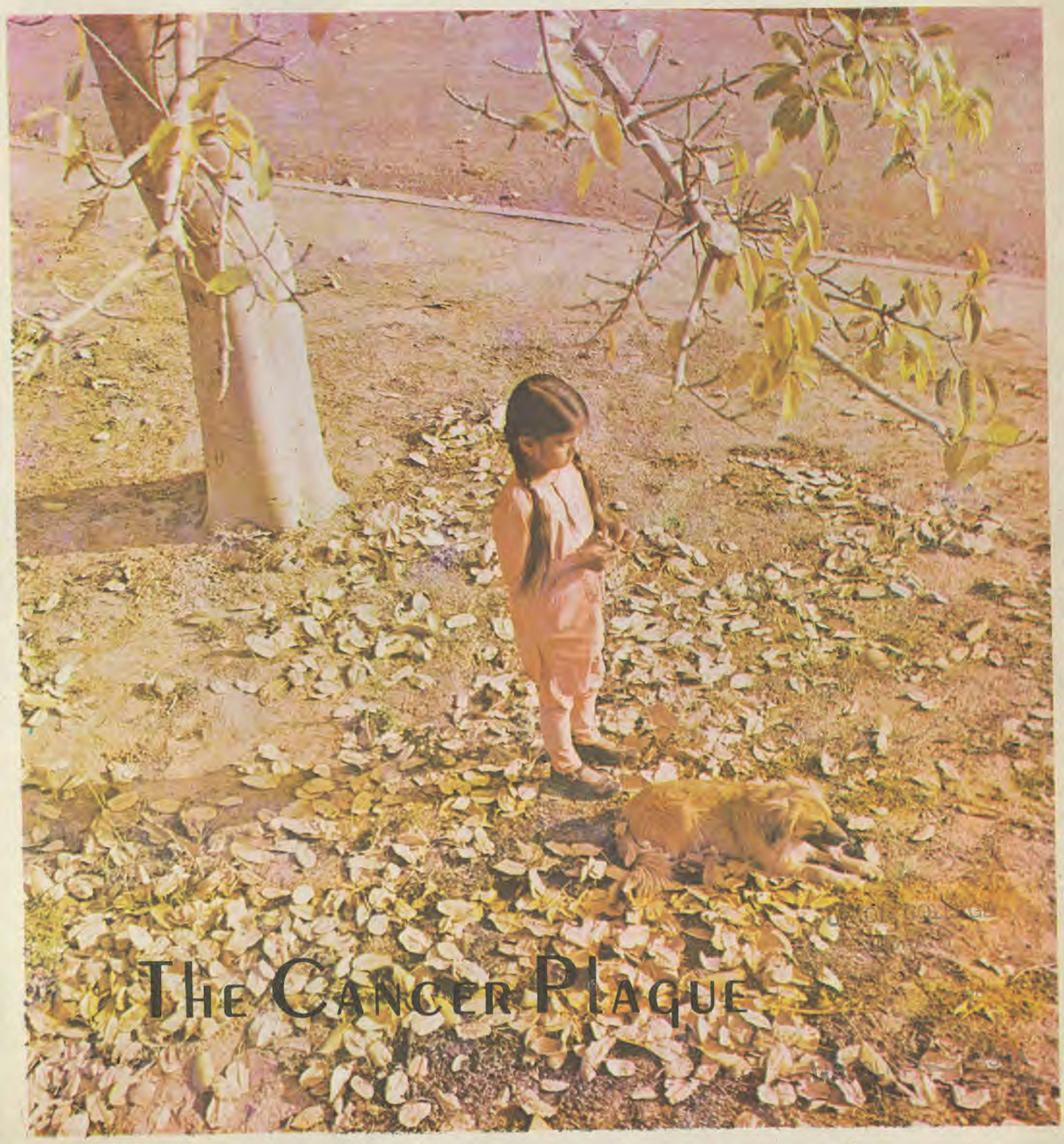
herald of health

DECEMBER 1977



THE CANCER PLAGUE

What About Air Pollution?

MANY INDICT air pollution as the major cause of respiratory disease, but much of this publicity is designed to shift the blame away from cigarettes. Air pollution does constitute a health problem in some areas, but it is not the major cause of chronic bronchitis as some claim.

Scientists say that a person breathing normally for an entire day during a period of high air pollution in an industrial city would inhale from .02 to .2 milligramme of solid substance, a small proportion of what a smoker would inhale. Medical men estimate that air pollution causes a threefold increase in lung cancer, whereas cigarettes are responsible for a twentyfold to thirtyfold increase.

Moreover, another factor to be considered here is that a person breathes polluted air through his nose, which is an efficient filtering device, while the smoker draws his tar-laden smoke directly through his airways without the advantage of prefiltering.

In a smoker the tars and heat inhaled from one cigarette may inhibit the ciliary or cleansing action of the air passages for as much as two hours. Therefore, if this smoker lives in a polluted-air area, foreign substances not strained out in his nose are not removed by the filtering action of the cilia either, as they are for the nonsmoker. In other words, the smoker becomes victim of a double dose of irritating chemicals—first from his cigarettes, then from the polluted air he breathes. For this reason, such pollution does much more damage to the smoker than to the nonsmoker.

As to the relative importance of air pollution and smoking in causing chronic bronchitis, the U.S. Surgeon General's report says, "The importance of cigarette smoking as cause of chronic bronchopulmonary disease is much greater than that of atmospheric pollution or occupational exposure."—Courtesy, *LISTEN*

herald of health

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did you know

Cancer Hazard to Chemists

Chemists are more likely to die from cancer than other people, according to the West German association of chemists.

The association said this finding was the result of an investigation into the causes of death of all those members of the American chemists' association who died between 1948 and 1967.

The proportion of those who had died from cancer was 25 percent above the normal figure, the association said.

Prof. Paul Rademacher of Munster University had discovered that a whole range of solvents and chemicals which were in frequent use and which in fact "could be counted amongst a chemist's everyday tools" gave rise certainly or most probably to cancer, the association said.

Some Cancers Defeated through Healthful Living

"Eat properly, get enough rest, avoid excessive stresses and strains" and there's a chance you can prevent some cancers.

"It's no secret," said Dr. Antonio Rottino, director of Hodgkin's disease research at St. Vincent's Hospital in New York City, "that a healthy body will overcome most cancers in its own way. There are many invaders," he said, "which can cause cancer: smoke(tobacco), chemicals, drugs, viruses, even excessive sun or X-rays." But it is only when the body's superior defenses have been overcome—and in most healthy people this is rare —that a malignancy will ever have a chance to grow.

Dr. Rottino recommends daily exercise and a balanced diet, including natural foods containing the adequate amounts of vitamins and minerals. He is strongly against alcohol, sweets, cakes, refined breads, sodas, colas, et cetera.

The body's defenses against cancer are white cells, such as lymphocytes and macrophages, and antibodies. These attack the cancer through complex means and destroy the enemy.

Lady Finger Is an O.K. Protein

Mature seeds of the common vegetable lady fingers have as much protein and nutritional value as soybeans. Studies by University of Rhode Island food scientists have shown that flour made from lady finger seeds can be used in bread with other seed or grain flour. Lady finger seeds can also be used as a replacement for soy in animal feeds and as a supplement in various food products such as noodles, soups, and dry mixes. The seeds also contain 20 per cent poly-unsaturated oil.

Lady fingers can grow worldwide in semi-arid climates, and its yield per acre is as good as soybeans. In addition, it does not require as much fertilizer, and two crops can be grown each year.

CLIPPINGS AND COMMENTS

To find out what makes mosquitoes so mean, scientists have subjected them to brain surgery. Under a microscope, the anaesthetized insects have been operated upon with instruments fashioned from jeweller's tools, in efforts to learn more about their functions and anatomy. Mosquitoes are more than just a nuisance. Around the world, an estimated 1.5 million people die each year from mosquito-borne malaria, and millions more are stricken. Yellow fever and encephalitis also are spread by mosquitoes.

*

Every four minutes a plane lands or leaves Rand Airport, near Germiston, Transvaal. Although one of South Africa's smaller airports, the number of flights it handles makes it the busiest airport in the Southern Hemisphere.

*

The Canadian Wildlife Service is releasing captive-raised young peregrine falcons into the wild in the hope that some will survive and begin to breed. Surveys of traditional North American nesting sites have revealed that the bird had been eliminated in the east and was rapidly declining on most of the continent. Most of the 41 young birds produced in 1976 have been set free in areas in Canada where the species formerly existed. The peregrine falcon is one of the swiftest birds in the world. In a dive in pursuit of its prey, it has been timed at speeds of up to 200 miles an hour.

PREVENTING CANCER

Nicholas Gonzalez

HEART DISEASE, not cancer is the one we fear the most.

In 1975, 365,000 Americans died of cancer—1000 every day, one every 90 seconds. One out of four Americans alive today will contract some form of it; one out of six will die of it. No age group or social class is immune. Faced with such facts, it's no wonder that we've come to think of cancer as being beyond our own control and that we look to the technology of modern medicine for hope. We've become convinced that in some laboratory, some scientist will find the clue that will lead to a cure, once and for all.

But a cure is not the only answer: it is not even the best answer, for the fact is that cancer is largely a **preventable** disease, a disease of the way we live—a disease we can avoid!

"I think the most profound thing we've come to realize after years of cancer research," explains Dr. Frank J. Rauscher, director of the US National Cancer Institute, "is that 90 per cent or more of cancers are extrinsically induced. That means it's not your fate or mine to develop cancer simply because we're born people. Cancer occurs because of something we do—we eat certain foods, we drink, we smoke, we choose a certain way to live." And the people who know most about cancer, the scientists and physicians who study and treat it, are emphasizing more and more not the search for a cure, but the need for prevention.

Ironically, the ambitious fight against cancer is largely devoted to finding a cure. The fight began in earnest when President Franklin Roosevelt signed the National Cancer Institute Act of 1937, creating the US National Cancer Institute (NCI) with an initial budget of $700,000. In 1971, that war escalated when President Nixon, in his State of the Union Message, announced plans for expanded cancer research and a greatly expanded budget; the US Cancer Act of 1971 provided for the new commitment. By 1975, the budget for NCI was $691 million, and the total US research budget, including contributions from state and local governments and such private organizations as the American Cancer Society, had climbed to $900 million a year.

We are going to conquer cancer. There was no doubt of this in the minds of journalists, in the minds of politicians, in the minds of the public. But scientists are blunt about the impossibility of that dream.

"The public was misled," says Dr. Morris Zedeck, a researcher at Manhattan's famed Memorial Sloan-Kettering Cancer Centre. "When Nixon signed the Cancer Act, people got the idea it was like a moon shot; you give more money, we'll get the answers. But finding the cause of cancer, learning how the normal cell is finally changed to a tumour cell, and then learning how to cure cancer is so complex—it's like trying to understand life itself. Technically, we can't even begin to comprehend these questions.

You can pour $12 million into this programme for the next five years and maybe we'll come a **little** closer to understanding."

Our obsession with—and willingness to pay for—finding a cancer cure is understandable. But we haven't done very well up to now, despite the money, despite the technology. In 1936, 25 per cent of all cancer patients lived for five years after the disease was diagnosed. Today the figure is 35 per cent, so we have made some progress in 40 years. Most of it, however, occurred during the '40s and early '50s as a result of early-detection programmes and improved surgical procedures. Since then, the mortality rate for some cancers, such as Hodgkin's disease, has decreased, but most serious forms of cancer simply don't respond well to treatment. As a result, the five-year survival rates for our biggest cancer killer—cancer of the lung, breast, and colon—have remained virtually unchanged for 25 years.

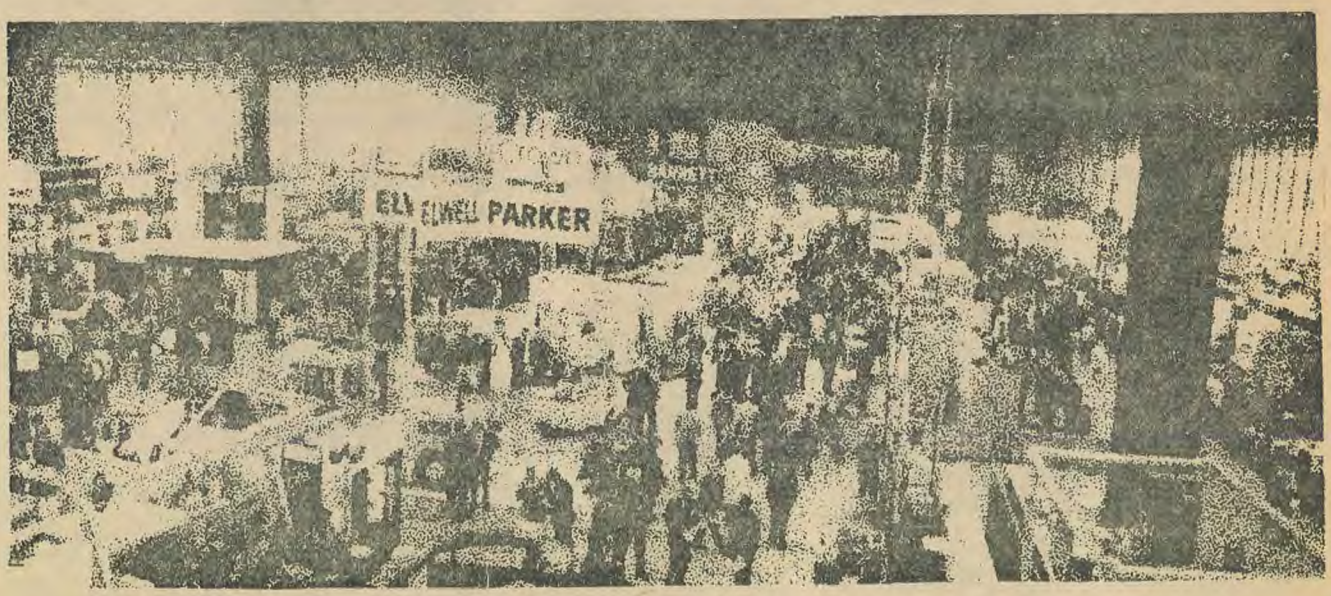
But we don't need to know what causes cancer, or how to cure it, in order to prevent it. Evidence from around the world shows that if we change certain factors in our personal environment, our lifestyle, and our community environment, we will substantially reduce our risk of getting cancer. As will be shown later, one group of Americans, the Seventhday-Adventists, has already done just that.

The easiest change to make would also eliminate one of the most dangerous of the cancer risk factors—cigarette smoking. If we could eliminate cigaraette smoking, at least 70,000 to 80,000 **lives** would be saved each year, and the risk of dying from cancer would decline in the general population from one out of six to one out of eight.

Today, no one doubts the association between smoking and lung cancer. Over the past 25 years, study after study has shown the people who smoke cigarettes, pipes, and cigars are more likely to get lung cancer than non-smokers. And although we've heard them before, the facts are still startling: a person who smokes, in any form, has 6 times the chance of dying of lung cancer as a non-smoker, and the risk for someone who smokes two or more packets a day increases to 19 times that of a non-smoker. Two years ago, approximately 90,000 men and women contracted lung cancer, and 80,000 died of it—22 per cent of all cancer deaths. And don't delude yourself with the idea that science will cure you of lung cancer; it is so deadly that only one out of 10 people who get it survive for five years.

The effects of smoking are not limited to the lung. Cigarette smoke is a dangerous mixture of chemicals, including at least 12 known carcinogenic hydrocarbons —a particularly active class of chemicals linked to many forms of cancer in animals. These substances not only affect the entire oral cavity but are also carried throughout the body by the bloodstream, leading to cancer in distant organs. Smokers, depending on the amount they smoke, suffer from 3 to 10 times more cancer of the oral cavity—lips, mouth, tongue, and pharynx—and at least twice the amount of bladder, oesophageal, larynx, and pancreatic cancer than non-smokers. (Pancreatic cancer is an incurable form of the disease that last year claimed 19,000 lives.)

And that's **still** not all. The potent chemicals in cigarette



"Just think what we could do if only people would stop smoking."

smoke react with certain chemicals we take in from other sources (the air, our food, and so forth) in a combined, or "synergistic," way. That means that the combined danger is greater than each danger considered separately. For example, alcohol, because of natural contaminants that result from the fermentation process, increases the risk of cancer of the oral cavity. If you're a heavy drinker, you have twice the chance of getting oral cancer than a nondrinker. But if you're a heavy drinker **and** a heavy smoker, your chance of getting oral cancer is 15 times greater than that of someone who neither smokes nor drinks.

This synergistic action has been studied in factory workers exposed to carcinogenic chemicals. Dr. Irving Selikoff of the Mount Sinai School of Medicine in New York has investigated thousands of men who produce and handle asbestos—a common substance used as an insulating material. Dr. Selikoff has shown that workers who are exposed to asbestos and who smoke are more likely to get lung cancer, but a **heavy-smoking** asbestos worker has **92 times** the chance of developing lung cancer as someone who doesn't smoke and isn't exposed to asbestos. The significance should be clear: smoking is not only dangerous in itself but it also enhances the dangers in other chemicals.

But we cling hard to our habits, no matter how dangerous they are. In spite of such irrefutable scientific data, more than one out of three adults smokes regularly, and the number of new smokers is increasing, particularly among teen-aged girls.

People don't start smoking just by accident. Cigarette advertising, after all, doesn't dwell on lung cancer, and last year cigarette manufacturers spent over $250 million on advertising alone—an amount more than one third of the US federal budget for cancer research. It is also ironic that the US federal government, which has declared "war" on cancer, spends over $50 million a year in subsidies for tobacco growers, but less than $1 million on educational campaigns to point out the dangers of smoking.

Physicians and scientists struggling against cancer know cigarettes are killers, and they're frustrated by our refusal to stop smoking. "Everyone, everyone complains about chemicals in the environment causing cancer," says Dr. Hans Marquardt of Sloan Kettering, "but isn't it ironic, everyone **knows** smoking causes lung cancer, and nobody does anything about it. People just go happily along—smoking."

Although scientists don't know exactly which chemicals in smoke cause cancer, or how they react with one another, or why they cause lung cancer in one person and bladder cancer in another, they do know that prevention is the only solution to lung cancer. "Just think what we could do if only people would stop smoking," says Dr. David Schottenfeld of Memorial Hospital in New York. "There are so few opportunities in medicine like this, to do something with just one gesture." The "cure" for lung cancer? It's simple: Don't smoke.

Scientists now believe that the foods we eat may have an important influence—perhaps the most important—on cancer incidence around the world. For example, evidence indicates that the typical American diet, loaded with fat, sugar and highly refined foods, is responsible for our high rates of intestinal and breast cancer. Our second and third biggest cancer killers respectively, they claim 50,000 and 30,000 lives a year.

By comparing the incidence of the various forms of cancer in different parts of the world, scientists found that these rates vary greatly from country to country and, sometimes, even from area to area within a country. If cancer were the result of some inherent cellular malfunctioning, then a person's chances of getting a particular kind of cancer would depend on his genes, not his neighbourhood. But researchers found that groups that migrate from one country to another suffer from the cancers prevalent in the **new** country, **not** those of the region of origin.

Of course, many variables other than diet must be taken into consideration, but in longrange studies comparing cancer incidence among native Japanese, native Americans, and Japanese who have migrated to the United States, diet seems to be the most important.

Japan and the United States are similar in many ways: both are highly industrialized; both use large amounts of pesticides, synthetic chemicals, food additives, and preservatives; and both are

highly polluted. But the cancers that are most prevalent in each country are entirely different. Japan has the highest rate of stomach cancer in the world; the United States has one of the lowest. On the other hand, America has one of the highest rates for colon cancer, while Japan has one of the lowest. We also have notoriously high rates for cancer of the endocrine organs, particularly the breast, uterus, and ovary in women, and the prostate in men. The Japanese are largely free of these cancers.

But an extraordinary change occurs in the cancer profile of the children of Japanese immigrants to the United States. First-generation American-born Japanese suffer from the same kinds of cancer, at the same rates, as other Americans. Unlike their ancestors, they are almost completely free of stomach cancer, but suffer from as much colon cancer and nearly as much cancer of the endocrine organs as other Americans.

Pesticides, synthetic chemicals, and pollution cannot explain the shifting rates because the two countries are so alike in these respects. Instead, scientists have focused on the one cultural element that does change when Japanese become Americanized—diet.

In Japan, most people still adhere to the traditional diet of large quantities of pickled vegetables and smoked fish, which contain both potent carcinogens and also cancer promoters (which do not cause cancer themselves but increase the effect of chemicals that do). Also, half of the calories in the typical Japanese diet comes from polished rice, and in some studies high starch intake has been associated with stomach cancer. The American diet differs drastically from the Japanese: 42-45 per cent of the total calories comes from fat, mostly beef fat; (In Japan, fat accounts for a rather insignificant 15-20 per cent of all calories).

Scientists really don't know why the American diet leads to certain cancers, but they have proposed several valuable hypotheses. Dr. Dennis Burkitt, an English researcher who has studied bowel cancer in Africans, believes the high rates for colon cancer in the United States are related to the large quantities of highly refined grains and cereals which are consumed. Such foods are deficient in vegetable fibre, an indigestible "bulking" material that helps speed waste through our large intestine. Without fibre, Burkitt claims, waste accumulates in the colon, encouraging the growth of abnormal bacteria, which, in turn, produce carcinogenic chemicals that can lead to the development of gut cancer. Burkitt has found that Ugandans, who consume large amounts of unrefined grains and cereals, have extremely low rate for colon cancer.

Not all scientists accept everything in Burkitt's hypothesis. Dr. Ernst Wynder, president of the American Health Foundation and a pioneer researcher in the field of diet and cancer believes the fat content of the American diet is far more crucial than the lack of fibre. He believes that the end products of fat digestion, particularly "metabolites" formed from bile acid and cholesterol are carcinogenic. Dr. Michael J. Hill of the Central Public Health Laboratory in London has taken this theory a step further by proposing that bacteria in the colon change cholesterol and bile acids into oestrogenlike carcinogens that might make their way to oestrogen-receptive organs, such as the breast and ovary, and initiate cancer. (Some evidence indicates that high-fat diets actually change the hormone profile in women; researchers discovered that the hormone profile of Japanese-Americans is more like that of American women than native Japanese.) Most probably, bowel and endocrine cancers develop from a combination of these factors, for a high-fat diet is usually also low in fibre.

How can a person's diet have such serious consequences? The fact is that our bodies just aren't adapted to the kind of food we eat. Dr. Wynder, who chaired and helped organize a milestone conference last year on "Nutrition in the Causation of Cancer," emphatically makes this point: "It is obvious, he says, "from the work in arteriosclerosis that our human body was not engineered to handle the kind of food we give it today, particularly since we are a sedentary population."

Although we gorge ourselves on a diet that is simply not suited to our physiological needs, scientists are sceptical about our willingness to change our eating habits. "Nutrition is a very promising area," says Dr. Wynder, "but it's a difficult fight, for umpteen reasons. We like our high-fat, high-cholesterol diets. The food industry likes to produce this kind of diet, and we don't like to change. But we've got to find out where our priorities lie."

If your top priority is good health, studies show there are immediate steps you can take to cut down your chances of getting leading cancer killers. First of all, eat less fat, particularly beef fat: substitute chicken and fish for those endless hamburgers, a small steak for a large one. Eat more fresh fruits and vegetables: they're not only rich in fibre, but also loaded with natural vitamins and minerals. Most important, avoid highly refined grains and cereals. Not only has the fibre been removed from most of these products, but most of the vitamins and minerals are neatly shaved off as well. Learn to eat whole-wheat bread and other unrefined cereal products.

Finally, use common sense; your body isn't a machine made of indestructible metals. It's a delicate mechanism. Once you put these suggestions into practice you'll realize that it's not difficult, and you will probably find you're losing your taste for many of the highly processed and fatty foods you thought you couldn't live without.

Any cancer-prevention programme must take into account the complex subject of manmade chemicals. These days we're bombarded with one horror story after another, exposing yet another hazard in some food additive, or in a drug, or in an industrial chemical.

Scientists are divided over the risks of our chemical way of life. Some researchers simply don't believe the chemical concentrations are high enough to cause trouble. "Chemicals as such are dangerous," says Dr. John Weisburger, vice-president for research at the American Health Foundation, "but only to the people they affect directly in high concentrations, such as workmen in the vinyl chloride polymerization plant. These fellows are in a room as big as my office without respiratory protection, and of course they inhaled fabulous amounts of vinyl chloride."

But more and more scientists warn of greater dangers. Some fear a future cancer epidemic—and, tragically, evidence is beginning to support that view. Cancer rates are going up—and they're going up very quickly. In March 1976, the National Cancer Institute revealed that in 1975 cancer mortality had increased far beyond even the most negative expectations.

"We have to be aware," warns Dr. Schottenfeld, "that we may be only at the beginning. If you look at the proliferation of the chemical industry, it's not inconceivable that we are seeing just the tip of the iceberg."

Scientists like Dr. Selikoff are predicting that we won't have to wait too long before the rest of the iceberg emerges. He believes that cancer mortality for some major occupational groups will exceed 40 per cent—more than three times the current rate.

There's no doubt that the dangers seem terrifying. But what should we do? Can we protect ourselves from toxic substances? The answer is an emphatic yes.

We ourselves cause much of our exposure to synthetic chemicals. We're the ones who use dozens of pesticides around the home and garden; we're the ones who pop a myriad of pills, from sleeping pills to weight reducers; we're the ones who've bought the line that there is a chemical answer for every problem in life, from rust to aphids.

We have to change our thinking and accept the fact that many of these chemicals we thoughtlessly use are not harmless—too often they are labelled "safe" only until some enterprising scientist proves just how dangerous they really are.

We can now say with a good deal of certainty that our personal habits greatly influence our chances of getting cancer. But, unfortunately, the idea of individual responsibility, as Dr. Wynder points out, has never really appealed to us very much.

"When we personalize risk," says Dr. Schottenfeld, "we do so in a very detached way. Cancer's always going to affect the poor guy around the corner, it's not going to affect me." But you may be the person around someone else's corner. A look at a critical study in the field of cancer research might help spur you to start your own programme of cancer prevention. At last year's symposium on nutrition and cancer, Dr. Roland Phillips of Loma Linda University in California presented a paper discussing cancer rates in the Seventh-day Adventists. The Adventists, an evangelical religious group with some half million U.S. members, advocate a moderate lifestyle, with no alcohol or smoking. Approximately half follow a "lacto-ovo-vegetarian diet," one allowing eggs and milk (but no meat) and including large amounts of unrefined grains, fresh fruits, vegetables, and nuts. Adventists avoid highly refined foods and don't drink tea or coffee.

Does the Adventists' lifestyle affect their cancer incidence? You can be sure it does—and impressively. Not surprisingly, the Adventists get very little lung cancer, and their rates for the other smoking-related cancers are low. In one study, the Adventists suffered only 28 per cent expected death rate for cancer of the bladder, 34 per cent of the normal for cancer of the oesophagus, and an amazing 2 per cent of the normal for cancer of the mouth.

The Adventists also get only 50 to 70 per cent of the standard American rate for cancer of the gastro-intestinal and reproductive tracts, a fact closely related to their diet, which contains 25 per cent less fat and 50 per cent more fibre than the typical American diet. Dr. Phillips also suggests that their low-fat diet might make the Adventists more resistant to the action of carcinogenic chemicals. And, of course, since they adhere to a natural diet, they're consuming much fewer additives and preservatives than the rest of us.

The Seventh-day Adventists don't live in Borneo, or on isolated mountain tops; they're our neighbours and are exposed to the same chemicals in the air and water as others. Yet these simple differences in their lifestyle have greatly reduced their chances of getting cancer.

You won't die of cancer if you never get it. And, in the end, the final solution—or the lack of one—may simply be within us. ***

Who's in Charge Here?

By Charles L. Stone

IT ALL CAME about with the tardy realization that no habit should be bigger than the man. That and a psychic wallop that struck me at just the right time. The actual decision was no different from the many other thundering resolutions I had made before in my continuing effort to be free of the cigarette habit. But this time it had followed a period of thinking about the strength of this unbelievably tenacious habit and the failures of previous efforts to discipline myself.

My love affair with cigarettes began when I was in my early teens and ended abruptly some 20 years later. Knowng the way it ended and exactly what happened to bring it about may be helpful to others who want to "kick the habit".

Were there some easy, invariably successful way to quit smoking there would be no such person as a smoker who wanted to quit but couldn't. The private and public health agencies everywhere would have blanketed the world with such a message of hope.

My father, a geologist, was an out-doors man, and at an early age I learned to love clean, crisp mountain air. As a half-grown kid I would sit alone high on a hill looking out over rugged mountains miles away. The cigarette habit, even then well entrenched, would subtly direct my hand to my jacket pocket, and the moment I sat down a cigarette was in my mouth and lighted. Despite the delightfully pure air all around me, there I sat sucking into my lungs the smoke of burning paper and dried weed. Istinctively I knew it didn't make sense, especially since I was vaguely aware that the taste in my mouth was far from agreeable.

Little did I know the day was so near when it would become a deeply ingrained and unwelcome part of all my waking hours. Had I known then what I have since learned about this curiously ingratiating habit, the story might have been quite different.

I fell gradually into the smoker's routine—slowly, insidiously my consumption rose from one to two, then finally to three or more packs a day. Satisfaction dwindled with the increase in the number of cigarettes consumed. I changed brands constantly. For the first few days a new brand seemed to offer enhanced taste. But the novelty soon wore off.

The expertise evidence in the tobacco industry's presentation of its product was, to my way of thinking, unsurpassed. Its radio and television programmes were often the best offered. The product itself was neat and attractively packaged. What a thing the cigarette manufacturers had going for themselves! Reluctant addict though I was, I was nonetheless a sincere admirer of the shrewdness of the major tobacco companies. Once a human was hooked on their product, really hooked as I was, they had a life-time customer.

I often thought about this situation during the years of my addiction. Since the great majority of smokers wanted to stop—or said they did—why didn't they just do it? One day an idea hit me: perhaps the answer was *taste*. The flavour of burning tobacco is extremely pleasant to the taste buds once you have overcome the original aversion. But only for the brief time it curls around your tongue. When the cigarette is finished, the pleasing taste and the aroma of burning additives in the tobacco linger a very short time, only a matter of minutes. Soon you are conscious of a distinctly disagreeable taste, which only food or drink or chewing gum or—right—another cigarette can dispel. So there you are, exactly where the cigarette makers want you to be—dying for another smoke to replenish that undeniably appealing taste. It is the old vicious circle.

My struggle for deliverance was over before the Surgeon General got into the act, even before the Cancer Society and the heart and lung associations began getting all the priceless publicity on the air. Hence, the facts and figures on tar and nicotine never got my complete attention. But I knew from past trials and the accompanying frustration that there were no half measures—you could never quit smoking if all you were seeking was lower tar and nicotine content, or charcoal or all-white or recessed filters. You had to cut clean. You had to lower the curtain on a phase of your life that was finished. I knew this to be a fact as a result of trial after trial of cutting down on smoking, limiting myself first to two packs a day, then one; finally to one cigarette after each meal. Try as I might, there was always the inevitable relapse, followed just as inevitably by despairing total abstinence lasting from a week to as much as a month.

Somewhere along the line after

I'd been married several years, I asked my wife, a nonsmoker, whether my excessive use of the weed didn't bother her. My parents, most of my relatives, to say nothing of my friends, had firm opinions on the matter. As I mulled it over it seemed strange that someone as close as my wife had never said what she thought on the subject. In answer to my question she said, "I wish you didn't." Not petulantly, almost wistfully. At a later date she said, "I wish you didn't smoke, not only because it isn't good for you but if you didn't, you and your clothes wouldn't reek of tobacco all the time."

Still I drifted along year after smoke-filled year, not really making any headway on getting away from the habit. My thinking on the subject had degenerated into a string of shabby rationalizations. I smoked because I liked to smoke. In so doing I hurt no one else, so why shouldn't I enjoy myself? Cigarettes were a stimulant when I was down, a tranquillizer when I was jittery. I couldn't climb stairs easily anymore or keep up with the show-offs who jogged. But that was only because I was getting older. Food didn't seem to have much taste lately, but I'd rather give up being able to taste than do without cigaretes. Anyway, whose business was it but my own?

Two seemingly small happenings helped me end my struggle with the cigarette habit. One morning I awoke in a particularly grumpy mood, eyes bloodshot, mouth dry and feverish. At breakfast my wife said, "I hope your cold gets better soon. This one has hung on for weeks, hasn't it? They say cigarettes don't help any, but I know you can't do anything about that."

It hit me like a thunderbolt. "I KNOW YOU CAN'T DO ANYTHING ABOUT THAT." I sat stunned for a moment, letting her words sink in. I can't to this day understand why the shock of this simple statement shamed me so utterly. It was the fact of the matter, of course, but to hear it from my own wife, and spoken so gently, so matter-of-factly, left me badly shaken. I stopped eating, left the house, and got into my car without lighting a cigarette.

All that morning her words kept running through my mind, endlessly repeating themselves: "I KNOW YOU CAN'T DO ANYTHING ABOUT THAT." Whatever had happened to the self-respecting young man whose parents had brought him up so carefully, and of whom they had always been just a little proud? How could I have let myself fall victim to one of the stupidest habits a man can embrace?

That day in the office and during lunch in the company's cafeteria I deliberately watched the heavy smokers as they dragged deeply on their cigarettes. One of my close associates, a heavy smoker but usually a responsive, convivial man, became noticeably quieter after his third cigarette, his eyes and mouth showing deep fatigue. An overweight co-worker, customarily an inarticulate fellow whose inhalations and exhalations were audible at ten paces, blossomed into the leader of what little conversation was to be heard in our corner of the dining room.

These were my kind of people; both were two- and three-pack-a-day smokers. Probably they were no more securely hooked than I was. I hadn't smoked all day, and when I got home I was not only dying for a cigarette but was tied in knots emotionally. I was still holding on, however hoping for I knew not what. Some kind of revelation, perhaps; some sort of miracle to solve my problem, realizing all the time what a pitiable jellyfish I had become.

That evening my wife reminded me that the next morning we would be paying our weekly visit to her invalid mother in a convalescent home. At the time I had no reason to believe this visit would be different from the dozens we had made on previous Saturdays. It began in exactly the same way. While my wife and her mother talked, I sat nearby fideting with magazines and the TV set, thinking how urgently I needed a cigarette. I got up to go for a walk, and presently found myself at some distance down a hall from the reception lounge staring through an open door at a pathetic old man propped up in bed. He was wearing a short-sleeved nightgown, his scrawny arms protruding grotesquely below the sleeves. His face and neck were skin and bones, his hair long and unkempt, and several days' growth of stubble completed the unpleasant picture.

But what struck me with the force of a blow in the face was his trembling hand carrying a cigarette back and forth to and from his quivering lips. Cigarette ashes were scattered from his whiskery chin all down his front, and his eyes stared through thick-lensed glasses. But apparently he did not see me. I stood transfixed at the sight of this poor ghost of a human sucking and puffing on a cigarette. His hand shook violently as he took the cigarette from his mouth to exhale the bluish-white poison. I checked an impulse to walk in and take his arm to steady it.

Finally I turned away, sick with pity and shock. But what I had seen had done the trick. Somehow I knew I was free from that moment on.

Later I told my wife about the experience. "Oh, yes," she said. That was Mr. Nichols. Cancer." She touched her chest.

On the trip home I said, "You know, one picture *is* worth a thousand words, isn't it?"

"Appropos of what, my love? she asked.

"Can't tell you now. But I will someday."

Today I'm sure my twenty-year love affair with the slim, white double dealers is over. I know it's over, because I haven't smoked a cigarette in more than fifteen years.

***

Cancer and Other Malignant Growths

What is cancer?

It is a disorderly wild growth of tissue cells. If the process continues unchecked, the normal structure and function of an organ are destroyed. Cancer cells may be likened to weeds in a well-kept garden which get out of control and outgrow and kill the flowers. Eventually, if the weeds are not eradicated, the entire garden will be destroyed.

Are there any organs that are exempt from cancer?

No. Any organ may be affected by cancer or a cancer-like growth.

Is cancer ever contagious?

No.

Is there a tendency for cancer to occur more often in men than in women?

No. The incidence is approximately the same. However, certain types of cancer show up more often in one sex. For instance, lung cancer is more prevalent among men; breast cancer among women.

How often does a non-cancerous (benign) tumour turn into a cancer?

It is not possible to cite the precise number of cases, but this phenomenon takes place often enough to convince physicians that early treatment for all tumours is essential. Many lives are saved by the removal of benign tumours which, if left alone, might have turned into cancer.

Is cancer on the increase?

In all probability, cancer is on the increase. However, this can be explained by the fact that people live longer these days. Thus, they live into the later decades, when cancer is much more prevalent.

Are there any age groups which are more prone to develop cancer?

Yes. Cancer occurs more frequently in the latter half of the life span.

Are there any age groups which are less likely to develop cancer?

Young children, adolescents, and young adults, though they possess no immunity, develop cancer less often than older people.

Is there a special type of person who is most likely to develop cancer?

No, but some investigators feel that stout people are somewhat more susceptible than thin people.

Is there a type of person who has less chance of developing cancer?

No. However, the person who submits to thorough health examinations at regular intervals is better protected, since the presence of cancer may be detected at an earlier and more curable stage in its development.

Does cancer tend to run in families or to be inherited?

Cancer is not inherited, but many physicians feel that a tendency toward cancer may be inherited.

Should the history of cancer in a family cause one to hesitate to marry into that family?

No. There are practically no families in which some history of cancer cannot be found.

Are certain races more likely or less likely to develop cancer?

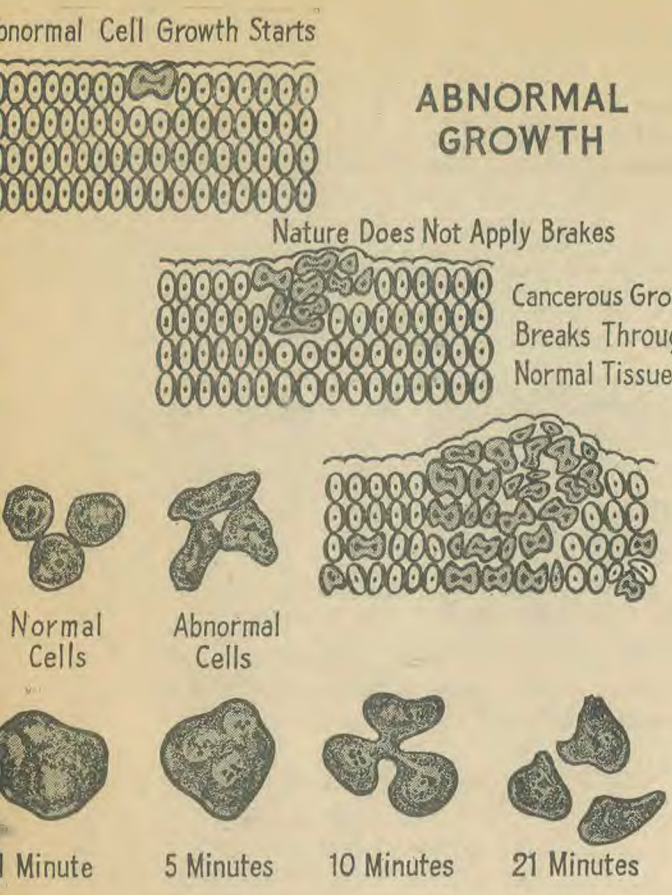
No race is known to have any special immunity toward all forms of cancer.

Are there certain ethnic groups that are more likely or less likely to develop cancer?

No, but certain peoples have habits peculiar to their own way of life which may predispose them to the more frequent development of certain types of cancer. Thus, in cultures where people smoke heavily there may be a greater incidence of lung cancer than exists among peoples who use no tobacco.

Does climate or the place in which one lives have any influence on the incidence of cancer?

Cancer exists throughout the world.



What causes cancer?

Cancer is not one, but many, diseases! The cause of certain cancers, such as cancer of the skin of the hands among those who work unprotected with petroleum products, is well known. Other cancers are thought to arise from other chronic irritants, such as tobacco. Some cancers are attributed to nests of primitive cells present since birth, which never matured, and which suddenly, in later life, undergo stimulation and grow wild. Also, some investigators now believe viruses are the cause of certain cancers.

Does smoking have anything to do with the incidence of lung cancer?

Yes. Lung cancer is much more common among male smokers than among those males who have never used tobacco.

Does drinking of alcoholic beverages have anything to do with cancer development?

No.

How many different types of cancer are there?

Approximately sixty to eighty.

Is there much variation in the virulence of cancer?

Yes. Some cancers are extremely slow-growing and will never destroy the host; others (like certain of the blood conditions, such as acute leukaemia) may destroy the host within a few weeks.

Is cancer caused by a blow or other physical injury?

Practically never. This is a very common misconception.

What actually takes place when an organ undergoes cancerous degeneration?

The cancer cells outgrow the normal cells within the organ. They often use up most of the available nourishment and oxygen meant for the normal tissues, thus causing the normal tissues to starve and die.

How does cancer spread?

There are three main routes.

a. By direct growth and extension to surrounding structures.

b. By spread through the lymph channels to distant organs.

c. By spread through the bloodstream to distant organs.

What causes cancer to spread from one part of the body to another?

Cancer cells break loose from their site of origin and get into the lymph channels or blood vessels.

Is there any way to prevent the spread of cancer from one part of the body to another?

Yes. By removal of the primary tumour when it is in an early stage of development.

How can one tell if a cancer has already spread from its organ of origin?

A wide surgical removal of the primary tumour with surrounding normal tissue will often reveal, under microscope examination, whether the cancer has already spread; that is, microscopic examination may spot cancer cells which have broken loose and become lodged in adjacent tissues.

Is there any way to prevent cancer?

The best method is to have a complete physical examination once or twice a year. Also report any unusual symptoms to your doctor at any time between regular examinations. The finding of a lump anywhere in the body or the occurrence of unexpected bleeding from any orifice in the body, while not necessarily indicative of cancer, should nevertheless stimulate a visit to your doctor.

Is cancer on the increase among children?

No, but improved methods of cancer diagnoses may make it appear so.

How can one tell if he has a hidden cancer?

Cancer often does not cause symptoms until it has existed for quite some time. This is another reason an annual or semiannual checkup is advisable.

Are cancer detection examinations worth while?

Yes, but they should not be used as a substitute for a good general health examination.

Are there any satisfactory blood tests to determine if one has cancer?

Not at present, but indications are that such tests will soon be a reality.

Will cancer always show on x-ray examination?

No.

Can a surgeon always tell whether a tumour is cancerous when he removes it?

A piece of the suspected tissue is taken and is subjected to microscopic examination.

How long may it take to get the microscopic report?

Anywhere from fifteen to twenty minutes, in a frozen section examination, to one week for a more detailed report.

Does an immediate frozen section microscopic examination in the operating room always give a conclusive diagnosis?

No. It is often necessary to carry out further studies, which may take a few days.

What is a biopsy?

The microscopic examination of a tumour or piece of tumour tissue.

Is the microscopic report accurate and reliable?

Yes, in almost all instances.

Does cancer ever disappear by itself without treatment?

There are only a few authenticated cases on record of a known cancer that has disappeared by itself and not returned.

Will cancer always end fatally if not treated?

No. There are cases, by far the minority, where the cancer grows so slowly that the patient lives out his normal life span and dies of an unrelated condition.This is particularly true among old people.

What are the chances for recovery in a patient with cancer?

Certain types of cancer, such as skin cancers, are almost 100 per cent curable. Other forms vary according to location and the stage at which they are first discovered and treated. With early diagnosis, more than half the people with cancer can be saved.

How can one tell if he is cured of a cancer after its removal?

The passage of time is the best evidence. Very few cancers recur after a five-to ten-year lapse.

Can people recover from cancer if it has already spread beyond the point of origin?

Yes, although the chances for recovery are markedly lessened. X-ray treatments, radioactive isotopes, chemicals, or hormones may destroy those cells which have gotten beyond the original cancer site.

Do cancer patients recuperate as easily as those who have had surgery performed for other conditions?

No, but with modern surgical methods, the differences have been so minimized that cancer patients do almost as well as others after surgery.

Do cancer patients show weight loss early in the course of their disease?

No, unless the tumour is in the gastro-intestinal tract, where it interferes with eating or food absorption.

Do cancer patients usually show anemia early in the course of their disease?

No, unless there has been marked bleeding associated with the tumour.

Do cancer patients often show loss of appetite early in the course of their disease?

No, unless the tumour is in the stomach or esophagus.

Does the size of a cancer have much to do with its degree of malignancy?

Not necessarily. Many huge cancers are relatively benign, and many small cancers spread early, widely, and rapidly.

Is it likely that a time will come when there will be one cure for all cancer?

This is doubtful, since cancer is so many different diseases. Even now, we have cures for some forms of cancer!

Should a patient be told if he has a cancer?

People have a right to know what is wrong with them **when they want to know.** If the patient would rather not know, then he should not be informed.

What prevents the surgeon from removing a cancer completely?

Surgeons always strive for complete removal, but sometimes the tumour has extended into vital organs which cannot be removed. Other times, the cancer has spread so extensively that it has gone beyond the help of surgery.

Can a surgeon always tell if he has removed a cancer completely?

No; a surgeon cannot operate microscopically, and a few cells may have spread beyond the reach of his scalpel. He will not, unfortunately, always be able to know this.

Is there a tendency for cancer to recur after it has been removed?

Yes, but periodic examinations may spot such a recurrence at a stage when it can be controlled or eradicated.

How does one minimize the chances of recurrence of cancer?

a. Wide primary removal of the tumour.

b. Postoperative treatment with appropriate methods such a X-ray, radioactive substances, chemotherapy, or hormones.

Does diet have anything to do with the recurrence of cancer?

No.

If a patient has recovered from a cancer, can he return to a normal life?

This depends upon the location of the cancer and the form of treatment that was administered. The great majority of those who have recovered from cancer do return to normal or near-normal activity.

Is there a tendency for a patient who has had one cancer to develop another elsewhere in the body?

Yes, but this situation can be handled satisfactorily by frequent, thorough medical surveys.

Can pregnancy have a harmful effect upon a woman who has recovered from a cancer?

Yes. It may sometimes reactivate the growth of tumours in certain organs which are influenced by the hormones of the body.

After the successful treatment of a cancer, how often should one return to his doctor for follow-up examinations?

This will vary according to the type of cancer. However, a semiannual visit is advisable. ***

Dunbar W. Smith, M.D.

CANCER, second only to heart disease, is the most cruel of all killer diseases. It is the most devastating plague in the world today. An alarming fact is that the number of people with cancer is increasing. Cancer of the lung (primary bronchiogenic carcinoma) was virtually unknown fifty years ago, but it is the most rapidly increasing form of cancer today.

The statistics are grim, but there is hope. Physicians are more successful in treating cancer than obesity. If patients could be treated soon enough—if they would go to a doctor at the first indication of cancer—more than fifty per cent of those who die of cancer would live.

Millions of dollars are being spent in research toward a breakthrough in cancer treatment. Some of the world's leading scientific brains are focusing on this problem. Someone will be the Chris Barnard in this field. Many are hoping to be. It is anticipated that some new discovery will snatch people from the brink of the grave.

Not too long ago a diagnosis of diabetes meant death. Banting and Best discovered insulin, and from that time on, by a simple injection, diabetics could live about as long as if they were non-diabetic. There was a time when to tell a patient he had pernicious anaemia was to warn him of impending death. Minot and Murphy discovered the substance in the liver, later identified as vitamin B_{12}, that controls pernicious anaemia. We hope to hear one day soon in the headlines and on the radio and television about a marvellous new discovery that will banish cancer.

What Is Cancer?

The word cancer, is from the Latin word meaning "crab." The disease was so named because as it spreads, a central body develops projections that look like the "legs" of a crab.

Cancer is an erratic, uncontrolled growth of body cells. The control mechanism in the cells fails, and so they run wild and do not stop multiplying. Normally, body cells develop and multiply according to a pattern. The whole body—hair, eyes, muscles, bones, nerves, blood, and every organ—all came from one cell. That primary cell divided, the two resulting cells divided, and in time cells differentiated to form bones, brain, nerve tissue, blood vessels, and so on. Cells multiplied by the million, and after

THE CANCER PLAGUE

constructing perfect organs and an adult body they automatically stopped multiplying.

What caused the cells to stop multiplying? This is as much a mystery as what caused them to start. Controls are placed in every cell and organ. In cancer, the cells multiply without control. In this respect they are like juvenile delinqents, for they grow and multiply rapidly, do not obey the rules, and do not assume the duties of adult cells. They reproduce early and die young.

Cancer is a tumour (mass), but not all tumours are cancerous. The non-malignant tumours ordinarily do not destroy life, unless they are in the brain where they may kill by pressure or erode even through bone. Malignant tumours grow in organs and tissues, and they may extend into a blood vessel, where through the blood of lymph the cancer cells may spread to other parts of the body and establish colonies (metastasis). Cancer of the thyroid gland may colonize in the kidneys, bones, lungs, or brain. A person may die of a tumour in the brain that came from a tiny growth in the thyroid gland.

There are several varieties of malignant tumours. The main ones are carcinoma and sarcoma. Cancer of the blood is called leukaemia. Blood is a fluid tissue made up largely of cells.

There are many theories about what causes cells to run wild and multiply uncontrolled. A current opinion is that the primary cause is a virus.

Someone has likened the action of viruses to looters after a hurricane. The people have fled, and the police have not arrived. The looters slip in and pick up what they can. So it is with cancer viruses. When the body tissues are broken down and the protection is gone the viruses sneak in and take control. There is reason to believe that viruses cannot do this unless secondary factors have prepared the way.

Cancer Research

"The hottest thing in cancer is research on viruses as possible causes," said Dr. John R. Heller, head of cancer research at the Sloan-Kettering Foundation in the United States. Of the work of another investigator **Newsweek** reported:

"It is known that viruses can lurk in the human body for years, even a lifetime; some cause trouble, some do not. It is possible, said Dr. Stanley, that all of us are walking around with 'sleeping cancer viruses.' In some cases, Dr. Stanley theorized, the cancer viruses may become active through circumstances such as aging, dietary indiscretions, hormonal imbalance, chemicals, radiation, or a combination of these stresses, and malignancies may follow."

Dr. Ludwik Gross, M.D., said in the **Journal of the American Medical Association:**

"During the past decade the concept of viral etiology of cancer and allied diseases has gained considerable momentum. Experimental data began to accumulate pointing more and more to the possibility that many, if not all, malignant tumours may be caused by viruses. Thus a large number of malignant tumours of different morphology and in different species of animals could be transmitted from one host to another by filtered extracts. . . It is not entirely impossible that most, if not all malignant tumours not only in animals but also in humans, are caused by filterable viruses."

If one or several viruses are identified as being the primary cause, we would know better how to prevent, effectively treat, and possibly cure cancer.

What is a virus? It is a very small organism that cannot be seen with an ordinary microscope. It will pass through a filter that screens out bacteria. It is practically inert and does not breathe, eat, excrete or multiply except within a living cell. It is on the borderline between the living and the non-living.

More than 4000 different viruses are known. You have about twenty varieties living in you. The common cold is a virus disease for which there is no known cure. Influenza, measles, chicken-pox, smallpox, hepatitis, and poliomyelitis are all virus diseases. Poliomyelitis was greatly feared a short time ago but no longer.

Virus in a Cell

A virus multiplies only in a living cell. It enters through the cell wall like a pirate, takes control, and borrows the reproductive mechanism of the host cell in order to multiply. Soon there are millions of viruses. As they leave, the cell usually, but not always, is destroyed. If the cell lives after such an experience, its productive and control mchanisms may have been fundamentally altered. The virus usually disappears, and as the cell reproduces, it forms strange immature daughters—cancer cells—that multiply erratically and rapidly.

Disappearance of the virus is one of the reasons why medical scientists were delayed so long in discovering the virus relationship to cancer. The virus commits the perfect crime—slips in, destroys or alters the cell, and is gone. But today Sherlock Holmes of the research laboratory is hot on its trail.

If cancer is caused primarily by a virus, there is a possibility of control. What has been done with the virus disease smallpox, theoretically can be done with the virus disease cancer.

The virus is likened to a planted seed, which will not grow unless the soil is prepared. A virus causing cancer will not grow unless the tissues are altered by secondary causes that "prepare the soil."

Some secondary causes of cancer have been known for a long time. Sir Percivall Pott, an English surgeon in eighteenth century England, noted that only chimney sweeps developed a certain type of skin cancer. Pott deduced that soot ground into the skin was the cause. A law was enacted that forbade chimney sweeps to enter chimneys to clean them, and this type of cancer largely disappeared.

Other possible secondary causes could be listed as: irritants in some coal-tar products, certain insecticides, smoked meat, tobacco tar, pan, snuff and atmospheric pollution.

Mechanical irritants such as jagged teeth may also be included with possible secondary causes for cancer along with unclean skin, heat and too much sunshine. Radio-active substances and atomic fall-out may also cause cancer.

Cancer may come from overstimulation of the endocrine glands with the production of too much hormone. Overstimulation of sex glands may have a lot to do with the high incidence of genital cancer.

Until there is a vaccine, what can be done about cancer? First of all, support the great cancer-fighting agencies. The cancer societies are spending millions and are doing a monumental work. Modern treatment is effective. Thousands of people are saved today through surgery, chemotherapy and radiation treatment.

Second, have an annual physical examination.

Third, know the danger signs of cancer and watch for them. When they do appear, go immediately to your family doctor.

Other ways to help prevent cancer are to stop smoking and the use of tobacco in any form; live a healthful physiological life; get exercise and sunshine (not enough to burn the skin); breathe plenty of fresh air; keep your body clean; and keep your emotions, appetite and passions under control. Do not go to excess in anything. Do not expose yourself needlessly to radiation.

I would suggest that you eliminate fried and smoked foods. I would like to recommend a vegetarian programme, because I think it has a definite advantage in cancer prevention. If you think you must eat flesh food, be sure to cook it well. I also suggest that you cook eggs well. Use only sterilized milk or, better still, use milk made from soya beans. Do not eat raw eggs, because the incidence of cancer in chickens is very high. Eat a nourishing diet, but cut down on sugar.

Be alert for the first sign of cancer, and if it appears, go to your doctor at once. If the diagnosis is cancer, have it treated immediately. Today you have a good chance of cure. ***

CANCER

Aftermath of a Lifestyle

Tranquilion Elicano, Jr., M.D.

TONGUE CANCER occurs usually among the elderly group. Some of the factors which have been attributed to cause tongue cancer are:

1. Chronic alcoholism
2. Heavy use of tobacco
3. Smoking habits such as smoking with the lighted end of the cigarettes inside the mouth.
4. Poor oral hygiene, jagged teeth and ill-fitting dentures.
5. Syphilis

Detection, diagnosis and treatment. Pre-malignant changes such as leukoplakia (white, thickened patches which sometimes show a tendency to fissure) and the presence of constantly inflamed mucous membrane should not be allowed to go untreated. Cancer of the tongue usually presents as a non-healing, often painless ulcer of long duration. If a tongue cancer develops localized pain, then this is usually a sign of advanced growth. The draining lymph nodes are usually affected early and present as enlarged masses below the mandible and at the upper neck. Culture and sensitivity tests should first be done for accurate treatment of superimposed infection. The use of dyes may be helpful in the detection of malignant growth. X-ray studies of the mandible and chest should also be done. Study of cells is also utilized. Surgical removal of an area particularly at the edge of the lesion should be done and the specimen examined under the microscope.

Cancer of the tongue can be treated by a combination of radiation therapy and surgery. Radiation therapy can be given either by cobalt teletherapy and/or by implanting the tongue with certain radioactive isotopes. When tongue cancer is correctly treated while still in its early stage, the 5-year survival rate is more than 50 percent. But if the cancer is advanced and already has involved the lymph nodes, the prognosis becomes very poor and the end usually fatal.

Cancer of the Cheek and Hard Palate

Cancer affecting these areas are usually brought about by tobacco and betel nut chewing trauma, by biting as well as ill-fitting dentures. Treatment in these cases is also done by giving a combination of radiation therapy and surgery.

Cancer of the Lip and Oral Cavity

Cancer of the lip is the most common of oral cancers and accounts for from 15 to 20 percent of all head and neck malignancies. The lower lip is affected by cancer at least ten times more frequently than the upper lip. It is more prevalent in males and is usually rare below the age of 40. However, there is an increasing incidence with age.

Some of the factors which may cause lip cancer are:

1. Prolonged exposure to the sun and wind.
2. Chronic irritation such as by tobacco, especially pipe smoking and the repeated pulling away of cigarette paper from the point on the lip where it sticks.
3. Syphilis

Signs and symptoms. The area concerned usually starts as an ulceration which is painless and persists for more than two weeks in spite of medication. Sometimes the adherent scale that covers the superficial ulcer bleeds.

Diagnostic procedures. After careful clinical examination of the lip and the draining lymphatic areas, biopsy (surgical excision) should always be done and the specimen examined carefully for malignant cells.

Treatment

1. Leukoplakia, a pre-malignant condition which usually appears as a white plaque on the lip, should be surgically removed.
2. Small cancer of the lip which is less than one-half cm. in size can be adequately treated by either wide surgical excision or radiation therapy.
3. Extensive malignant lesions will require surgical removal followed by reconstruction. However, radiation treatment yields better cosmetic results.
4. Enlarged palpable draining lymph nodes are often due to inflammatory reaction and should be first treated medically and observed for not more than one month. If no response is achieved within this period, then biopsy of the affected node should be done. A positive result should be followed by a radical surgical operation of the chain of affected nodes. External radiation may also be given here.

Lip cancer, when detected early and given proper treatment, has a good prognosis with 90 percent of those affected surviving after five years. ***

Happiness in Waiting

WAITING FOR something you want very much often doubles your enjoyment and appreciation. Like that letter you've been watching for. Or the cricket bat you saved up your allowance to buy. Or the time you saved your money to go to summer camp. You probably appreciated it more than Manesh, who had it handed to him and then complained every day about the food.

Learning to wait with a degree of patience is one of the signs of growing up. Have you noticed how hard it is for little children to wait for things? When they want to go someplace they want to leave **now.** When they are riding in the car for even a short trip they keep asking, "When will we be there?" When hungry they want to eat immediately. It's hard to wait. And when they sit down at the table, they want to dive in immediately without waiting to pass things as do civilized people.

What common trait is noticeable in the following persons: the man who pushes ahead of you in line at the post office; the driver who beats you to a start at a four-way stop; the child who nibbles on a biscuit half an hour before dinner; or the woman who continually breaks in while you are talking? No matter what their actual age, these people are showing their immaturity. They have not yet learned to wait.

That is, to wait intelligently. Some people find it easy to put off attacking some unpleasant task, such as washing the dishes, picking up clothes, or cleaning out the closet.

The father of an acquaintance describes his son's attitude in these words: "If there's anything to eat, he says, "Let's eat it now" (perhaps a pastry his mother baked for tomorrow). If thre's anything that needs doing (such as weeding in the garden), he says, "Let's do it tomorrow!"

One area where waiting pays off in measurable profits is the matter of mealtime. More pleasure in eating; more health for the body. A person who nibbles all day without giving his stomach a chance to finish one assignment before taking on another doesn't know the satisfaction that comes from eating when one is really hungry. Moreover, the stomach cannot work effectively when mistreated in this manner.

As hunger diminishes, the appetite becomes more finicky. Hunger has been given us to ensure we do not forget to eat and thus supply the body with nourishment. Appetite makes the task pleasant. When hunger is satisfied and the body is not in actual need of food, appetite decreases. If little Sudie eats a few cookies before dinner she likely will not want her vegetables—but may have enough appetite left for dessert.

Where food is plentiful and easily available people tend to think more about the enjoyment of eating than the welfare of their bodies. They are tempted to overeat or to eat between meals. Then good, wholesome food frequently loses out to rich delicacies.

Mark Twain once wrote a hilarious story called "The Appetite Cure." A man whose appetite had become jaded with high living sought help. He saw advertised an establishment called "The Appetite Cure," which guaranteed unconditionally to bring back the craving for food to those who had lost it. Even the most difficult cases could be dealt with. The guest checked in and looked hopefully at the menu for his first meal, expecting some tempting dishes fit for an Epicurean. What he actually saw listed were inedible, outrageously repugnant items that turned one's stomach. "Is that all you have?" he asked. "Yes," replied the waiter. The diner turned away in disgust.

The next morning he went to his table expectantly with no better fortune. He certainly was not hungry enough to eat anything listed. This went on day after day, with his appetite improving wonderfully as his stomach became emptier and emptier. Every day he searched the menu, eagerly hoping there would be one item he could bring himself to eat that was less loathsome than the others. Finally he came to the place where he was willing to eat almost anything, and when he saw "Spring Chicken, hard boiled in the egg" on the card he didn't hesitate to order. His host then explained he was cured and brought on a meal of wholesome food.

True hunger is the best basis for a good appetite. An appetite for wholesome food is one of the greatest blessings man can have

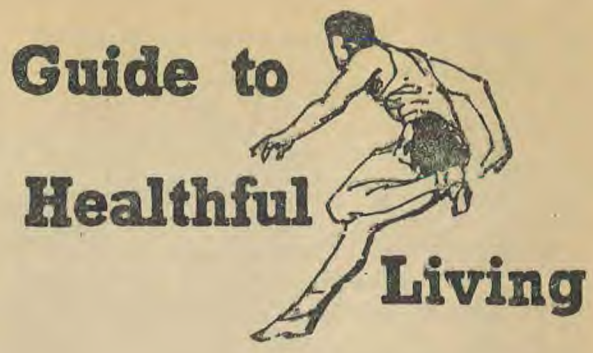
and promotes good health. True hunger cannot develop when the stomach is either full or working on a meal.

The stomach, as with other organs of the body, deserves time for rest. The heart has a mini-rest after each beat; the lungs have a moment of rest between each breath. But some stomachs are kept busy day and night. Little time is allotted between meals, and there is plenty of snacking.

Consider for a moment what happens when you eat between meals. Digestion in the stomach and in the alimentary canal takes place according to fixed laws of chemistry. Your body is programmed for this. It always does the best it can with whatever material you provide. But **what** you give it, and **when** and **how much** is important.

Suppose that digestion of your dinner has been nearly completed and the contents of your stomach are almost ready to be passed on to the intestines through the pylorus. (The word **pylorus** comes from two Greek words meaning "gatekeeper." Its function is just that.) Until digestion has reached a stage satisfactory to the gate-keeper, your dinner will remain in the stomach. Now suppose that at the last minute a few nuts or a piece of chocolate candy are introduced from above. These new entries are undigested. They have not been worked on by the digestive fluids. Their addition to the chyme, or contents, of the stomach will likely cause delay in the orderly progress of the entire meal through the alimentary tract. Your poor stomach will not have a work break before you sit down to yet another meal.

Be considerate of your stomach! It's part of **you**, isn't it? Your food will taste better when you're hungry, will digest more rapidly when your stomach is not overloaded, and your appetite will be more keen after it has had a good rest. A good meal is worth waiting for. ***



A Balanced Diet

MANY PEOPLE are sick because they have not learned how to care for their bodies properly. Some know how to live healthfully but have neglected to do anything about it, and they suffer as a result. It is best to start early in life teaching children how to be strong and healthy.

There are seven foundation stones on which to build health:

1. Exercise
2. Rest
3. Fresh air
4. Good diet (temperance)
5. Water
6. Sunshine
7. Trust in God (mental health).

These factors should be in proper balance.

Here we will discuss a good balanced diet. It is not hard to balance the diet once we understand the basic principles of nutrition. The many known nutrients required by our bodies may be classified into seven groups:

1. Protein
2. Fat
4. Vitamins
3. Carbohydrates
5. Minerals
6. Bulk
7. Water

These seven constituents can be broken down into three groups:

1. **Growth and Repair Foods.** Foods that produce growth and repair are the protein foods (dairy products, legumes, some grains, nuts, and even some green leafy vegetables), which should constitute about 10 per cent of our daily diet.

2. **Heat and Energy Foods.** Foods that produce heat and energy are the carbohydrates (cereals, bread, legumes, sugar, vegetables, fruits) and fats (olives, vegetable oils, margarine, dairy products, avocados, and nuts). They should constitute about 90 per cent of our daily food intake.

3. **Body Regulators.** Water, food minerals, vitamins, and cellulose (vegetables, fruits, grains, and nuts) keep the body running smoothly.

Water especially is a good regulator. It helps every organ of the body toward efficient operation. It helps to unclog the machinery.

In planning a daily menu, take care to see that the following are included:

1. Two to four glasses of milk or substitute, including what is used in cooking.

2. One green and one yellow vegetable (one raw) besides potato.

3. Two servings fruit (one fresh).

4. Citrus fruit or tomato.

5. Two servings legumes, nuts, meat substitutes, or soy products.

6. Four servings whole-grain cereals or bread.

7. Two tablespoons wholesome fats (oils, olives, avocado).

Here is a group of seven hints to help you improve your family's nutrition:

1. Eat a wide variety of foods —fruits, vegetables, grains, and nuts—although not at one meal. Eat vegetables and fruit at separate meals. Eat unrefined foods, those that have not been altered in manufacture, and those to which chemicals and additives have not been introduced.

2. Eat foods that contain mostly unsaturated fats (liquid or soft) rather than saturated fats (hard). Vegetable and grain oils are preferable. Animal products rank high in saturated fat.

3. Eat at regular hours two or three meals a day and nothing between or late at night. Allow five hours between meals to avoid over-working your digestive organs.

4. Eat a hearty breakfast rich in protein.

5. Do not overeat. Eat the desirable range for your height and build.

6. Drink plenty of water, but not during meals. Chew your food thoroughly, and do not wash it down. Drink water on awakening and between meals.

7. Relax and enjoy your food. Do not rush. Think about pleasant things.

If your eating habits have not been good, start now to remedy the situation. Be healthy and happy! ***

The Hot Foot Bath

SIMPLE HOME TREATMENTS

EVERYONE LIKES to be successful. Whether an undertaking is big or small, there is great satisfaction in a task well done.

In giving treatments in the home, we want to get good results. One way to ensure good results is to keep the patient's body warm. If the body is cold before the treatment is begun or the person feels chilly after the treatment, we are unsuccessful in our effort to stimulate circulation, whatever measures we used—whether fomentations, cold mitten friction, or salt glow.

It is important that the room where the treatment is given be warm (70°F. or warmer) and free from draughts. A warm, draught free room in itself is not a gurarantee that the body is warm and ready to respond to a thermal application. If the patient is chilly, you must warm him before he can react to your treatment.

A simple measure to start favourable body response to heat or cold is the hot foot bath. Because water easily adapts itself to the irregular contour of the feet, a hot foot bath is the easiest way to warm the feet, and by warming the feet to warm the entire body.

Used alone, the hot foot bath relieves nervous tension and headache. When you feel a cold coming on, a hot foot bath taken just before retiring often prevents the cold.

By warming the feet, you cause the blood vessels in the feet and legs to dilate, relieving congestion in other parts of the body, such as brain, lungs, and abdominal organs. This balancing of the circulation gives relief from congestion centred in any section of the body.

For a hot foot bath you will need:

1. A foot tub. It should be large enough to allow the soles of the feet to rest comfortably on the bottom of the tub. Some plastic containers are ruined by hot water, so if you choose plastic be certain that hot water will not damage it.

2. A bath towel.

3. A bath thermometer.

4. A teakettle of boiling water.

5. A basin of cold water (ice water preferred).

6. A thin hand towel to use as a cold compress on head or throat.

7. One blanket. If the patient is sitting up for the treatment, wrap him well in the blanket, making a tent around the foot tub.

8. If you give the foot bath in bed, use plastic sheeting or several thicknesses of newspaper to protect the bed.

In giving a foot bath, first see to it that the room is warm, with no draughts on the patient. Watch his reactions so as not to tire or weaken him.

Place the waterproof sheet,

covered with a towel, under the feet.

Fill the tub with enough water to cover the ankles well. The beginning temperature should be not more than 104°F. If no thermometer is available, test the temperature with your elbow.

Place the patient's feet in the tub and cover tub and feet with the blanket. The blanket should cover the patient, with arms and shoulders kept underneath it to prevent chilling.

Keep the patient's head cool with a cold compress on the head or throat. A hand towel folded lengthwise in thirds or fourths usually makes a long compress that can go around the head if the patient is sitting up. One corner of the compress tucked under the opposite end keeps it in place. If the patient is lying down, it can be folded across the forehead, draped well over the temples. If the head compress is uncomfortable, a compress to the throat keeps the head cool.

Increase the temperature of the foot bath gradually by adding hot water. The patient may tolerate temperatures up to 112°F, or 115°F, although care must be taken at the upper limits of temperature range. When adding hot water, keep your hand between the feet and the hot water, stirring gently. Keep individual heat tolerance in mind. Watch the patient's reaction so as not to get the water too hot.

Continue the bath from ten minutes to half an hour, depending on the effect desired.

Remove the feet from the hot water. Douse them quickly with cold water, including the soles and tops. Lower the feet onto the towel. Remove the foot tub. Dry the feet well, especially between the toes.

Keep the following important considerations in mind:

1. When adding hot water, move the feet to one side of the tub. Pour water against the inside of the tub, with your hand between the feet and the water being added. Protect the feet further by stirring the water gently.

2. If the patient perspires, dry the entire body thoroughly with a towel or rub the entire body with alcohol, part by part. This will prevent chilling.

3. Do not use the hot foot bath in case of hardening of the arteries of the feet and legs except under a physician's direction. In diabetes, the temperature of the foot bath should not exceed 105°F.

4. If there is numbness, or loss of sensation, be especially careful, for burns can occur.

5. Watch the patient's reactions closely as a guide to time and intensity of temperature, and adapt your methods.

A hot foot bath may be given in these conditions:

1. To stimulate poor circulation in the feet.
2. To prevent or shorten a cold.
3. For relaxation.
4. To relieve a headache.
5. To relieve pelvic cramps.
6. To prepare a patient for a cold treatment such as a cold mitten friction or a cold shower.
7. To ensure good reaction to fomentations or some other treatment. ***

Fact Sheet on Cancer

* Cancer is not an inevitable killer. Delay, fear and ignorance cause more deaths in such cases than cancer itself.

* Data from cancer clinics in various parts of the world indicate that, with modern methods, of treatment, it is possible to cure three to four out of every 10 cancer patients. Cancers of the womb, breast, mouth, bladder, testes and rectum can be cured in the early stage; almost all cancers can be controlled.

* As against the world average of six million new cancer cases every year, which, assuming a three-year survival rate implies 18 million cases in all, the Indian average ('72-'73 figures) is about five lakh new cases annually. Although there is no systematic population-based or hospital-based registry in the country, except in Bombay, the incidence of cancer in India is considered to be relatively limited.

* In India, mouth cancer accounts for one-third of all cancer cases among males.

* More than four-fifths of cancer cases are caused by toxic substances in man's environment, normal cells getting transformed into malignant cells under the influence of chemical compounds (carcinogens), cancer inducing viruses and ionising radiation.

* Specific factors are: exposing lungs daily for years to tobacco smoke, air-borne particles such as asbestos and some industrial chemicals; food contaminated with certain moulds or fungi and containing toxic substances which cause liver or stomach cancer; working or playing for long hours in the sunshine without protecting the skin from ultra-violet rays while exposed; and exposure to radiant energy from X-ray equipment.

* Surgery is considered to be the most effective method of cancer control. Chemotherapy is effective in cases of acute leukaemia, Hodgkin's disease, and central nervous system cancers. Radiation therapy and immunotherapy are also successfully used. Inoperative immune systems in man can be reactivated by inducting into the patient bacterial extracts such as BCG vaccine used in T.B.

* The seven warning signals of cancer are:
(1) A lump in the breast or elsewhere in the body;
(2) Unexpected bleeding from any body opening;
(3) A sore that does not heal quickly;
(4) Persistent hoarseness;
(5) Cough;
(6) A change in one's normal bowel habits;
(7) Change in the appearance of a mole or a wart.
These are not "cancer signs" as such, but diagnosis is essential.

* The best possible protection against cancer is to have annual check-ups and to know about the seven warning signals. ***

Six Danger Signs of Cancer

1. Prolonged or unusual bleeding of any kind.
2. Persistent cough that lasts longer than two weeks. A tobacco smoker ought to have an X-ray examination of the lungs every six months.
3. A lump that develops and grows. It is probably benign, but have a physician examine it to be sure.
4. A change in a wart or mole. If it becomes irritated, bleeds, grows larger, starts spreading, or if little satellite moles develop around it, go to your doctor immediately.
5. Change in bowel habits. Constipation alternating with diarrhoea is a significant sign.
6. Any kind of sore that does not heal.

1977 INDEX

Stuffed Stockings and All Those Other Temptations

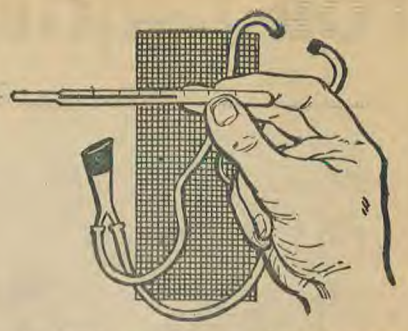
Oh the night was dark and chilly
When a little boy named Billy
Crept down to spy his presents by the tree.
In his stocking were some cookies
And a host of other goodies—
Just the sweetest things his eyes would ever see.

Billy looked at them with wonder,
Then in words as loud as thunder,
He remembered what his mother kindly said:
"These are only for your meal,
Not for snacks to snitch and steal—
And especially not before you go to bed!
For they'll stay down in your tumy—
For they'll wake up feeling grumbly—
Now that's no way to spend your Christmas Day."

Though he'd love to taste some candy,
And the cookies smelled just dandy,
He decided not to even take a bite.
"If I wait until tomorrow,
I will save my stomach sorrow—
And begin my Christmas doing what is right!"
So he tiptoed back to bed and slept all night.

Kathleen Reeves

The Doctor Advises



This counselling service is open to regular subscribers only. In reply to questions, no attempt will be made to treat disease or to take the place of a regular physician. Questions to which personal answers are desired must be accompanied by self-addressed and stamped envelope. Anonymous questions will not be attended to. Address all correspondence to: The Doctor Advises, Post Box 35, Poona 411 001.

IS PENICILLIN DANGEROUS?

How much reliance should I place on reports that penicillin is a dangerous drug? I understand that some people have serious reactions when given penicillin.

Penicillin is among the drugs that may produce reaction in those who happen to be sensitive. In the delayed kind of reaction known as serum sickness, penicillin is probably the most common offender. Other drugs which may cause reactions include sulfonamides, iodides, arsenicals, streptomycin, barbiturates and quinine. It is recognized that these are valuable drugs in the treatment of certain conditions and may even be lifesaving. Therefore the fact that these may cause reactions does not mean that their use should be arbitrarily banned.

The usual reaction in the case of a person who is sensitive to penicillin begins six to twelve days after the medication is begun and lasts two or three days. One or more of the following symptoms may develop: itching skin ("hives"), pain in the joints, swollen lymph nodes, or fever. Occasionally acute reactions occur promptly after the administration of the drug. Death seldom results.

For the delayed reactions the treatment consists of discontinuing the drug that is causing the trouble. The physician must then determine whether the patients' need for the drug is great enough to continue its use, in smaller doses, in spite of the reaction, or whether he should substitute some other drug. In cases with an acute reaction, emergency treatment is indicated.

FAST-GROWING BOY

Our twelve-year-old boy has grown very quickly in the past few months. He is now five feet seven inches tall and weighs 135 pounds. His posture is poor, and he tires very quickly when he plays hard. Do you think there is something wrong with him?

Your son is a big boy for his age. During this stage of rapid growth a child's body has some big adjustments to make.

I suggest that you take your boy to the doctor for a physical examination. Sometimes a child's heart does not grow as quickly in the adolescent period as do the other parts of his body. This may explain why your boy tires quickly. It may be a few months yet before his heart grows enough to be entirely equal to the demands upon it.

There are three general rules which will help your boy maintain his health and vigour while growing rapidly: (1) Get adequate exercise each day, but avoid the strenuous, all-out kind of physical exertion such as may be involved in highly competitive sports. (2) Obtain at least eight (preferably nine) hours of sleep each night. (3) Arrange for an adequate, regular diet. By this I mean that there should be a big breakfast each morning, that there should be no eating between meals, and that fancy desserts and highly spiced foods should be avoided.

SEDATIVES

Is it ever wise to use sleeping drugs?

Sleeping drugs should be looked upon as purely emergency medicines. Sleep derived from their use is never equal to normal sleep. There are times, however, when it may be better to take a small dose of a mild sedative than lie awake too long. In this way one may get back into the sleeping habit. Farmers and other hard-working, out-of-door people seldom if ever have to resort to a drug, as the normal fatigue following a days labour out-of doors is better than drugs. Sleeplessness is the price we pay for sedentary, indoor, civilized living. Walking from two to five

miles daily will, after a short time, usually cure insomnia.

GREY HAIR

What can I do for grey hair?

Let it turn grey! Grey hair is most attractive and becoming to any woman of any age if it is looked after. Make sure it is well shampoo'd and gleaming at all times. If your hair is very grey prematurely, it may be due to a disfunction of the thyroid.

CHANGE HEIGHT

Is there something I can do to increase my height? I am eighteen and only five feet one inch tall. Is there some medicine or treatment to help me grow more, even though I am already eighteen?

Our population is composed of some people who are tall, some people who are short, and many people who are of average height. Heredity is an important factor in determining how tall a person becomes. When both parents are tall, all or most of the children in the family also will be tall. When both parents are short, the children tend to be short, but they may be slightly taller than their parents. When one parent is tall and the other is short, the tendency is for the children to be short, but there may be the occasional exception with one child or so becoming tall.

A child's pattern of growth is established early in life. The child who was short as a baby probably will remain shorter than others his own age throughout childhood and be relatively short even when he reaches adulthood. The baby who has a greater than average length at birth probably will be a tall child and eventually at tall man or woman.

There are some exceptions to this general rule that short children become short adults and tall children become tall adults. When the exceptions occur, the change in the individual's pattern of growth usually takes place at the time of his adolescent growth spurt. Occasionally a tall child fails to grow as much in his early teens as other children do. On the other hand, there is an occasional child who is short until he arrives at the time of rapid growth and then grows more than children usually grow during their early teens.

Your question centres on the possibility of doing something even at your age to cause you to become taller. It is too late for your growth pattern to be changed. If it had been anticipated a few years ago that you were going to be a short man, it might have been possible through a programme of treatment administered by and endocrinologist for your rate of growth to be accelerated. By now the bones of your body have just about completed their growth, and it is no longer possible for them to respond to the hormones that stimulate growth during childhood and adolescence.

FORCEPS

A friend of mine had a difficult delivery. She said her doctor had to use forceps. Can these instruments harm the baby?

Forceps, invented about 300 years ago, are metal curved paddlelike instruments that are inserted into the birth canal on either side of the baby's head during the second stage of labour and locked into place. Their purpose is to provide the obstetrician with a means of gently assisting the mother with the delivery of the baby. Forceps are needed when the second stage of labour has become prolonged or when there is fœtal distress and the baby must be delivered quickly. Special forceps are used for babies born feet first. They are essential tools of the obstetrician.

WOODY WOODPECKER

Four Californian doctors have studied the woodpecker and believe they have discovered a method of making a safety helmet far more effective against severe motor crashes. Woodpeckers may emit as many as forty harsh, sudden blows on wood in 2.5 seconds. They can keep this up for prolonged periods without suffering from brain concussion and death. Humans could never survive such brain trauma. A study of the bird's brain puts up valuable suggestions. The doctors recommend "a lighter, form-fitting, firm but spongy helmet with a relatively thin and hard outer shell to protect against abrasion." —**The Bulletin**

HEART VALVES

Increasing numbers of younger women are receiving artificial heart valves to replace damaged and diseased ones, and this poses new problems for those wanting to become pregnant. The output of the heart increases by 50 per cent during pregnancy because blood is pumped out on each contraction. Many hearts with artificial valves can adapt to this enormous demand, but some women with certain types of prostheses need to take anticoagulant drugs to prevent thrombosis. With these, problems can mount. "Pregnancy is unlikely to endanger her life, but the chances of a successful outcome are lower than normal," **Lancet** reports. In short, the heart-valve patient should be told all the facts well before she embarks on pregnancy.

—**The Bulletin**

'ARTIFICIAL' STOMACH GIVES CANCER PATIENTS NEW HOPE

In the past stomach cancer surgery has meant a strict diet on pain of fresh stomach trouble.

Conventional surgery, by merely removing most or all of the stomach, eliminates the natural barrier that prevents partially digested food and gastric juices from spilling back from the small intestine into the œsophagus, there being nothing in between after stomach cancer surgery.

The overspill risk is so serious that the entire stomach is seldom removed. As a result the tumour could recur. But what the Ulm surgeons do is create an 'artificial' stomach by arranging the footage of small intestine in series, opening up the adjacent walls and sewing them together. The pressure of a full stomach on the œsophagus effectively prevents overspill in the natural manner, so a valve of some kind is not needed. The new technique has successfully been used on ninety cancer patients so far. Patients can eat more or less normal meals and not just periodic nibbles. —**German Features**

NEW ISRAELI DRUG MAY RIVAL INSULIN

A new type of antidiabetic drug, which is taken orally, is now undergoing clinical tests, both in Israel and in Europe. The drug, whose code name is D.I.D. 42, was developed by Dr. Enzo Tedeschi, a senior research chemist at the Plantex Pharmaceutical Company, Israel.

D.I.D. 42 is said to have a completely new chemical structure and a "novel" mechanism of activity. It reduces the glucose (sugar) in the blood by strongly increasing the burning of sugar (glucose oxidation) in the muscular and fatty cells, while simultaneously slowing down the creation of glucose in the liver cells. When compared to other oral anti-diabetic drugs on the market, this one, according to a senior pharmacist, is longer-acting, more efficient, can be taken in lower dosages, and has fewer side-effects.

The drug also decreases the cholesterol and fatty acid level in the blood. Moreover, unlike insulin, it is a normo-glycaemic drug (that is to say, it will not reduce the sugar levels in the blood below a normal level) and thus will not cause a patient to go into a state of shock if too much of the drug is taken. —**News from Israel**

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