The CANCER FILE

What doctors don't tell you about preventing and treating cancer

A special report from What Doctors Don't Tell You
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Introduction

The truth about alternative cancer

Cancer represents a healer's greatest challenge. It operates like an alien inside your body. Its biochemical laws are different from yours. It's able to completely disarm your immune system—in effect, creating an immunological shield to protect itself—all the while, it fires out substances that weaken the integrity of your cells and reproduces out of all control.

In no area of medicine have alternative ideas been more stifled than with cancer. In Britain, it is illegal for any alternative practitioner to claim a cure for cancer. In America, virtually every last cancer pioneer—mostly highly respectable, orthodox scientists—has been prosecuted or hounded out of the country.

The latest hope for alternative medicine was a 1986 investigation by the American Congress of all unorthodox cancer treatments. The project's stated purpose was to offer an even-handed evaluation of the effectiveness and safety of the major alternatives. Four years and $500,000 later, a 300-page report—a travesty of misinformation, error and bias—concluded: “There exists almost no reliable information on the effectiveness or safety of these treatments”.

What the report omitted to say is that many promising treatments have been evaluated by orthodox medical doctors, in some cases, outspoken opponents of alternative therapies. Mistletoe, for instance, was evaluated—and dismissed—by a pioneer of chemotherapy.

Despite a climate of outright repression, studies and anecdotal evidence poke through here and there like daffodils in February, consistently demonstrating that alternative cancer therapies do work.

We've been party to a study of sorts, when both our mothers were diagnosed with cancer. The one with the better prognosis opted for conventional radiotherapy and chemotherapy, and was dead within four months. The other one, who was given three months to live and who turned to alternative medicine because she was too late for conventional treatment, lived another seven years, and only died when her husband died and she lost the will to live—and carry on her treatment.

Medicine travels in many wrong directions and up many blind alleys, but perhaps the most wrongheaded path of all is its image of disease as an inevitable progression toward death. You are healthy, you get ill and you either hold the monster at bay, in some cases for many years, or it kills you.

In other words, with certain notable exceptions such as infection, once the machine is broken, it never truly works in the same way again.

Certainly, that is how medicine—and consequently we, the public—conceive of cancer. Once we are in its grip, if we don’t manage to cut it out, burn it out or poison it, it’s going to get us. Cancer is Hitler and we are Poland. The pogrom and its victory are always a heartbeat away.

Except that, in some cases, Poland wins without having to pick up a single weapon.

Over the years, **WDDTY** has examined those types of cancers that are not an automatic death sentence—cancers like ductal carcinoma-in-situ (DCIS) that burn themselves out or that are so slow-growing that we are likely to go to our graves with them, and often without ever knowing it. Indeed, we have often meditated over what exactly cancer is and what sorts of resources we need to call up within ourselves to turn the situation around.

Sabine Gaier, the wife of **WDDTY** columnist Harald Gaier, used to work in a British hospice. A hospice is universally accepted as the final port of call for cancer victims, a one-way hotel. You check in when the disease has entered its terminal phase, and it is tacitly assumed by all involved that you will only leave in a body bag. Nevertheless, Harald once told me, perhaps two or three patients each year check out of the hospice—alive and apparently cured.

These survivors fascinated Harald. He talked with Sabine about what characteristics separated them from ordinary cancer victims.

They were not resigned to their fate, he discovered, but they were also not fighters, battling those rogue cells with all their might. They were people who just were not allowing their cancer to occupy much of their lives. It might be Wednesday, they had to go shopping and had to do their laundry and . . . oh, right, they might remember they also have cancer.

I saw this attitude with my mother-in-law Edie, when she was diagnosed with terminal breast cancer. For those seven years, she reversed the cancer by following a regime devised by Dr Patrick Kingsley, but then her husband became ill and she couldn't leave him to travel up to Dr Kingsley's clinic.

So, eventually, she did nothing. She didn't have much time to think about her cancer, and the cancer more or less stayed at bay—until her husband died. Then she had nothing left to live for and the cancer got her, just six months after her husband's death.

Before he died, in a sense, Edie didn't have time for cancer.

The point is, a disease like cancer is just a state—something that can progress or recede, according to where you are in your life. There is nothing inevitable about it. I grow convinced that health and illness are influenced by the spectrum of influences in our lives—our food, air, and the level of allergens, chemicals and other poisons we're exposed to—but mostly by our mental and emotional states. Clean up your life and it's likely you'll get rid of your cancer.

It may well be that, to paraphrase William Shakespeare, there is no illness but thinking makes it so.

Of course, we all have to look after our bodies and eat the right things. But even more important may be how you choose to live your life. Create a fruitful and fulfilled life of giving to others, to the world and to yourself, and it may be that you will never have time for cancer.

In this booklet, we have compiled the scientific evidence about conventional and alternative approaches to the major types of cancer. We've also offer the truth about the most popular alternative treatments. The late *Times* newspaper columnist John Diamond was diagnosed with throat cancer some years ago—a cancer the doctors assured him was easily treatable. Over the years, he submitted himself to the best that modern medicine offers for cancer—chemotherapy, radiotherapy and several rounds of mutilating surgery that eventually left him without a tongue and, consequently, the ability to speak. And through all of this, Diamond kept up a running commentary in his column of the pain, humiliation and degradation of modern orthodox cancer treatment, all the while constantly reaffirming his faith in it as the only possible recourse.

So unshakeable was Diamond's faith that, when orthodox treatment failed to work, he refused to seek any alternative treatment and stoically accepted his fate. How are you, people would ask. Dying of cancer, he would respond. Technological medicine had spoken and he, the willing disciple, felt compelled to listen and obey.

Snake Oil, Diamond's book published posthumously, was to be Diamond's final *oeuvre*, a broadside attack on homoeopathy and other alternative 'ologies' of all varieties. He got as far as a rant, but died with the words "Let me explain why" on his computer screen. He never did provide a shred of evidence in support of his views, but that didn't stop the press from lauding his book as a refreshing return to sanity and rationalism.

It is as if believing that nothing exists beyond current human knowledge or understanding represents a type of metaphysical machismo—the hard-as-nails realist compared with the quiche-eaters among us who happen to believe that another medical paradigm, even if we don't yet fully understand it, may present us with a better approach to healing.

John Diamond saw medicine as a stark either–or choice. The reality is far more complex and multifaceted. Some conventional medicine—certain forms of surgery—has a good track record with cancer. Some alternative medicine, such as Burzynski's antineoplastons, works and is supported by excellent scientific evidence sanctioned by the US Food and Drug Administration. Others have no scientific evidence, but a great deal of anecdotal success.

Still others are no better than snake oil as, indeed, are chemotherapy, radiotherapy and surgery for many types of cancers.

In this booklet, we hope to tease out the truth about the best treatments for your particular type of cancer. In the preparation of this special report, we are indebted to writers Pat Thomas and Tony Edwards, Harald Gaier, Dr Rajendra Sharma, Dr Samir Malhotra and Amrit Pal Singh for contributing some of the material on these pages, to Sharyn Wong for subediting and production, and to John Clement for the design.

May this book help you on your journey to good health.

Lynne McTaggart

CHAPTER 1 Breast cancer: overdiagnosed and overtreated

Breast cancer is the second biggest ladykiller in the Western world, we're told. Most experts believe the causes are almost certainly to be found in the environment—particularly with the latest disclosure that most women with breast cancer have high traces of parabens in their breasts (Horm Res, 2003; 60 [Suppl 3]: 50; see box, page 8).

Some of the highest breast-cancer rates are found in the US, where breast cancer strikes one in every nine women, and 40,000 Americans die of it every year. The picture in the UK is only slightly better, with one in 12 at risk, but a staggering 33,000 new cases are diagnosed annually—twice the rate of only 40 years ago.

The bare statistics seem frightening, and have been used by doctors to press-gang women into being tested for breast cancer as early as possible. In the US, screening for breast cancer has become a huge money-making industry—a trend echoed even in Britain's cash-strapped NHS.

But what if the figures are wrong? What if medicine is seriously overdiagnosing as cancer a condition that is essentially harmless?

During the last 10 years, breast screening has been called into question largely over basic questions of accuracy.

In fact, a growing number of experts believe that the advent of breast-cancer screening has created a problem where none may actually exist, labelling and treating many conditions as cancer which aren't serious or life-threatening.

The astonishing fact is that fully half of all cases of so-called 'breast cancer' might not be cancer at all, but a harmless abnormality that will never progress to cancer. In some 16,000 cases in the UK and 40,000 cases in the US, women could be being wrongly treated for cancer.

What is breast cancer?

Breast cancer is a growth of undifferentiated cells in the breast area usually causing a lumpy tumour. However, the overwhelming majority—some 80 per cent of breast tumours—is not cancerous.

The breast is a fairly simple organ, mostly made up of fat, and lymphatic and connective tissues. Milk is produced in the nodules, and a system of ducts passes the milk to the nipple. It is in these lobules and ducts that cancer is believed to develop, eventually spreading out to the other parts of the breast and forming a tumour.

Although doctors often pretend otherwise, the various stages of breast cancer are still not well understood.

The first stage of one type of cancer is believed to be when a milk duct or lobule is invaded by microscopic calcifications. Most of these are so tiny that they cannot be seen or felt, and are only detectable on a mammogram. The calcifications are believed to be the precursors of cancer, but they are not in themselves cancerous. Nevertheless, they are somewhat misleadingly called 'carcinomas in situ' (CIS), which means 'cancers in place'. Doctors refer to the calcifications that occur in lobules as 'LCIS' and the ones in ducts as 'DCIS', which is much the more common diagnosis of the two.

Before mammography, DCIS was virtually unknown, but it now accounts for up to 50 per cent of breast-cancer diagnoses. The conventional view is that identifying DCIS is a good thing as it picks up cancer in the early stages, thus enabling treatment to prevent the cancer from developing.

At least, this is the message given to patients, but some experts are beginning to question the whole philosophy.

"Doctors should make it clear that DCIS is not cancer; it is only a possible pre-cancer process," says Dr Eric Wiener, head of breast oncology at the Dana-Farber Cancer Institute in Boston, Massachusetts.

The plain fact is that most DCIS does not become cancerous—a finding made by pathologists doing autopsies on women who had died of something else. Post mortems show that many women may have DCIS harmlessly in their breasts for years;

Which drugs can cause cancer?

Common prescription drugs may trigger or exacerbate the development of breast cancer. These medications may be linked with causing the disease in animals or man:

- **Antihypertensives**
  Serpasil (reserpine)
  Apresoline (hydralazine)
  Spiroctan or Aldactone in the US (spironolactone)
  Tenormin (atenolol)
- **Antibiotics**
  Flagyl (metronidazole)
- **Tranquillisers**
  Valium (diazepam)
  Xanax (alprazolam)
- **Antidepressants**
  Elavil (amitryptiline hydrochloride)
  Prozac (fluoxetine hydrochloride)
- **Antipsychotics**
  Haldol (haloperidol)
- **Cholesterol-lowering drugs**
  All fibrates and statin drugs, particularly Lipostat, or Pravachol in the US (pravastatin)
- **Chemotherapy**
  According to the National Cancer Institute, nitrogen mustard, vincristine, procarbazine and prednisolone (a steroid prednisone in the US) for treatment of Hodgkin's disease and other cancers place women at a significantly higher risk for developing breast cancer 15 or more years later
- **Antacids**
  Tagamet

it is only when DCIS spreads out beyond the duct (it is no longer 'in situ') that cancer might begin.

The problem is that doctors don't know what types of DCIS break out and become carcinogenic, or even how often DCIS turns into cancer.

If left untreated, some DCIS will break out and cancer will develop. But these cases are by far the minority. Most DCIS causes no problems at all.

Nevertheless, doctors almost universally recommend treatment, arguing that it is always 'better to be safe than sorry'.

Cancer statistician Dr Donald Berry, head of biostatistics at the M.D. Anderson Cancer Center in Houston, Texas, labels this 'knee-jerk medicine'.

In the hard-hitting article 'Epidemiology versus scaremongering', UK cancer expert Professor Michael Baum attacked health professionals for scaring women into unnecessary treatment. Baum has 30 years of experience as a breast-cancer surgeon at the Royal Free Hospital in London and, in his view, if left untreated, as many as 80 per cent of all DCIS cases will never become cancerous (Breast J, 2000; 6: 331–4).

This is backed up by American research aimed at quantifying the true risks of DCIS. Cancer statistician Dr Virginia Ernster, at the University of California at San Francisco, looked back over the death statistics of about 7000 women who had been diagnosed with DCIS, both before and after screening had become widespread. She found that, before the advent of screening, only 3.4 per cent of the women died of breast cancer, with the figure dropping to 1.8 per cent after its introduction. In either case, the "risk of death was low," commented Dr Ernster (Arch Intern Med, 2000; 160: 953–8).

Cut, poison and burn

The usual treatment for DCIS is a combination of the three standard anticancer weapons—surgery, chemotherapy and radiation, often disparagingly dubbed 'cut, poison and burn' by their detractors.

Breast cancer: the hidden causes

Women have a one in eight lifetime risk of getting breast cancer. This would appear to mean that one in eight women will be stricken at some point in her life. But it's not that simple. According to the US National Cancer Institute, the chances of developing breast cancer are:

At age 20:	1 in 2500
At age 30:	1 in 233
At age 40:	1 in 63
At age 50:	1 in 41
At age 60:	1 in 28
At age 70:	1 in 24
At age 80:	1 in 16
At age 95:	1 in 8

So, the risk increases with age, and the one in eight risk applies only if you live to the ripe old age of 95.

What the NCI and other cancer organisations fail to consider are the environmental factors that may be responsible for the growing breast cancer epidemic.

Dairy products

Fat is always a suspect culprit in breast cancer, but studies are conflicting. While a French study found an increased risk with saturated fats (Eur J Epidemiol, 1998; 14: 737–47), the ongoing Nurses Study at Harvard did not (JAMA, 1999; 281: 914–20).

It is often mentioned that Japanese women, with their traditional low-fat diets, have little, if any, breast cancer, but when they move to the US, they soon catch up.

It appears that fat is not the issue—milk products are. The traditional Japanese diet has no dairy, but as they pick up Western dietary habits, their use of milk products is rising—as is their incidence of breast cancer. The highest rates are in Northern Europe (Finland, Sweden and Holland), the UK, the US and Canada, all countries where cow's milk is a major food. The frequent consumption of whole milk is a risk factor in cancers of the lung, bladder, breast and cervix (Nutr Cancer, 1990; 13: 89–99).

Interestingly, breast-cancer patients have twice as high a consumption of vitamin D (usually added to milk) compared with cancer-free controls (Can J Public Health, 1991; 82: 300–3).

Outwater, Nicolson and Barnard of Princeton University theorise that the problem with dairy is their content of hormones and growth factors, in particular, IGF-1 oestrogen and bGH (bovine growth hormone). These may be involved in the growth of breast-cancer cells (Med Hypoth, 1997; 48: 453–61).

In a Norwegian study of more than 25,000 women, those who consumed three glasses of milk daily had almost three times the risk of developing breast cancer as those who drank a half-cup or less (Int J Cancer, 1995; 63: 13–7).

A Japanese study of rats found that milk and yoghurt enhanced the development of breast tumours, as did margarine (Cancer Detect Prev, 1994; 18: 415–20).

Sugar and flour are also implicated in breast-cancer research, as are heavier meats. A controlled Italian study of 2569 women with breast cancer found that the cancer increased with the intake of bread and cereals, sugar and pork, and decreased with vegetable oils, raw vegetables, fish, beta-carotene, vitamin E and calcium (Biomed Pharmacother, 1998; 52: 109–15).

Underwired bras

In their book *Dressed to Kill* (NY: Avery Publishing Group, 1995), Sydney Singer and Soma Grismaijer observe that breast cancer is as much as four times higher where women wear bras (Europe and North America). It was even higher with tight bras, which can leave red marks on the shoulders and under the breasts, and also interfere with breathing, causing oxygen deprivation in the cells.

Singer and Grismaijer found that women wearing bras for more than 12 h/day have a 21-fold higher risk of breast cancer than women wearing them for less than 12 h/day; women wearing a bra for 24 h/day have a 125-fold higher breast-cancer incidence compared with women who don't wear a bra at all.

As for underwired bras, the metal crosses acupuncture meridians and so can block the normal flow of the body's energy, or *chi*. According to Chinese medicine, this blockage can cause stagnation and disease.

Bra-wearing and dairy products are cultural habits that literally make us sick.

A safer way to screen for breast cancer

The routine medical test for breast cancer is mammography, a procedure which involves squeezing the breast between two plates and taking an X-ray picture.

But mammography has a number of serious drawbacks. It is highly inaccurate, particularly in young women, leading to harmful biopsies and exposing women needlessly to cancer-causing radiation (WDDTY vol 14 no 10).

What to do instead

- **Examine yourself regularly and have periodic clinical exams** by a trained nurse or doctor—shown to be more reliable than mammograms for picking up cancer (N Engl J Med, 1998; 338: 1089–96)
- **Look to ultrasound**—safer, but not much more reliable, than mammography
- **Consider thermography**, which measures skin temperature. Cancer 'heats up' the temperature of skin adjacent to a tumour, largely because of the increased blood flow and metabolism (Can Med Assoc J, 1963; 88: 68–70).

  Thermography may pick up cancers as much as eight to 10 years earlier than mammography. In one study, it picked up half of all early cancers while mammography identified only up to 10 per cent (Thomassin L *et al.*, *Proceedings of the Third International Congress of Thermology*, New York: Plenum Press, 1984: 575–9). The accuracy of the test is similar to or better than that of self-examination and mammography. For thermography, contact The Chiron Clinic, 121 Harley Street, London W1G 6AX (tel: 020 7224 4622; www.thechironclinic.co.uk).

Although DCIS is not breast cancer, its treatment regime is similar to what is given for the full-blown disease. Doctors will either recommend surgery to remove the so-called diseased part (lumpectomy) or even to remove the whole breast (mastectomy), followed by chemotherapy and/or radiation (Am J Nurs, 2001; 101: 11).

Nevertheless, a recent review of the evidence by cancer expert Maryann Napoli came to a stark and dramatic conclusion: there is no benefit whatsoever from any conventional treatment for DCIS.

Napoli, who runs the Center for Medical Consumers in New York, surveyed the US mortality rates in women diagnosed with DCIS, and found that just 1 per cent of them died from breast cancer—whether their DCIS was treated or not (Am J Nurs, 2001; 101: 11).

"Seventy per cent of women with a DCIS diagnosis are being overtreated and getting all the downsides of treatment—surgical scars, side-effects of surgery, radiation and tamoxifen," says Professor Susan Love, cancer expert at the University of California at Los Angeles.

Drug treatment

For the past 20 years, the 'wonder drug' tamoxifen has been the treatment of first choice for breast cancer. Its mode of action is to attack oestrogen, the hormone that is believed to cause breast cancer. In advanced cases of breast cancer, the drug does appear to have an effect, improving some women's long-term survival by up to 25 per cent. Results like this have hit the headlines.

What is less well known is that tamoxifen is useless for around 30 per cent of women with breast cancer because they have a form of the cancer that does not respond to oestrogen (Lancet, 1998; 351: 1451–67).

Because it appeared to work in more advanced breast cancers, in the 1990s, tamoxifen began to be used for DCIS—again with initially glowing headline research results. But, as more and more symptomless, essentially healthy women were being given the drug, it soon became clear that the medicine was worse than the disease it was meant to prevent.

Reports came tumbling in that tamoxifen was causing osteoporosis, retinopathy, stroke, bloodclots, and cancers of the womb, ovaries, liver and gastrointestinal tract—and some of the cases were fatal (J Gen Intern Med, 2003; 18: 937–47). The most serious side-effect has been endometrial cancer, forcing the World Health Organization to classify tamoxifen—the supposed

miracle anticancer drug—as a group 1 carcinogen (cancer-causing agent).

That was in 1996, yet doctors continue to prescribe the drug for DCIS.

Six years later, in May 2002, the Food and Drug Administration (the highly conservative US government healthcare agency) finally issued an official warning against tamoxifen, pointing to the "serious, life-threatening or fatal events" caused by the drug, and questioning its whole prescribing rationale, including for women "at high risk of cancer" (FDA statement, 15 May 2002).

Radiotherapy for DCIS

Besides tamoxifen, 'just-in-case' DCIS treatment also includes radiotherapy, where X-rays are targeted on the cancer area—even though, of course, there is no actual cancer.

In some women, radiotherapy itself can cause cancer, in particular, a rare "aggressive" cancer called 'angiosarcoma', a type of cancer that is almost always fatal (J Am Acad Dermatol, 2003; 49: 532–8).

Lung cancer, too, is a not uncommon effect of breast radiotherapy. Of 31 patients who had received radiotherapy for breast cancer, an alarming 19 went on to develop lung cancer—mostly on the same side as the irradiated breast (Med Oncol, 1994; 11: 121–5). Breast cancer patients also risk having soft-tissue cancer of the breast (Int J Radiat Oncol Biol Phys, 1995; 31: 405–10) and heart damage.

There is no evidence that radiation therapy for DCIS saves lives—"no trial in patients with DCIS has ever shown a survival benefit with the use of radiation," says Dr Melvin Silverstein, director of the University of Southern California Breast Center in Los Angeles (Oncology [Huntingt], 2003; 17: 1511–33).

In addition to drug therapy and radiation, conventional DCIS treatment also includes surgery to remove a small area of tissue or the whole breast. And, as breast specialist Michael Baum believes, any piercing of the flesh may cause cancer to develop.

Baum points to the theories of Harvard researcher Dr Judah Folkman, who has

Stress can cause breast cancer

Major stress possibly sparked by a bereavement, a job loss or divorce can cause breast cancer, researchers have proved. The risk of developing breast cancer increases by almost 12 times if a woman has suffered stress in the previous five years. Surprisingly, women who confront problems, and try and work them out are three times as likely to suffer breast cancer as those who have a more emotional response to their troubles.

Other risk factors, but considered of lesser importance by the researchers, include smoking and being postmenopausal. There was no evidence to suggest that environmental factors had any significant part to play.

This is a landmark piece of research because it is the first time researchers have been able to scientifically prove what has been 'known' for a long time.

A team of English and Chinese psychiatrists, radiologists, surgeons and cancer specialists, led by Dr C. Chen from the National Cheng Kung University Medical School in Taiwan, questioned 119 women, aged between 20 and 70, who had been referred to King's College Hospital in London with a suspicious lump in the breast.

By questioning them, and assessing stress levels and other factors, they were able to show that women were more than three times as likely to develop breast cancer five years or less from the time of suffering stress. This figure leapt to 11.6 times when adjustments were made for other factors, such as older age and the menopause (BMJ, December 9, 1995).

Women with early breast cancer have as good a survival rate if they have a lumpectomy, followed by radiation therapy, as women who undergo a radical mastectomy. A review of the research has confirmed the important finding made in 1989, which altered the way breast cancer is managed and treated. Unfortunately, there is a question mark over the original research as some of the data were later found to have been falsified (BMJ, December 2, 1995).

shown that cancers spread by forming new blood vessels through 'angiogenesis'.

As angiogenesis also occurs whenever flesh is injured, this may be enough to trigger the cancer process. "The newly formed blood vessels [after an incision] bring the blood and oxygen that encourage tumour growth," says Baum. "They also provide the means for cancer cells to travel to distant organs and form new tumours."

Baum believes that biopsy can also precipitate cancer. This routine diagnostic technique uses a needle to pierce the skin and cut out a tiny sample of tissue.

"If you identify these latent DCIS cancers and biopsy them, you have traumatised the area," he says. "You immediately trigger the natural healing mechanisms which involve angiogenesis. So the biopsy could be considered as an angiogenic switch. You take a latent cancer that would never hurt a woman, biopsy it, turn on the angiogenic switch, and it ceases to be latent—it becomes an aggressive disease."

The evidence appears to bear Baum out. Three studies show that breast cancer "almost always occurs at the original biopsy site" (Cancer, 1986; 57: 197–208; Cancer, 1989; 63: 618–24; Br J Cancer, 1990; 61: 869–72).

A poor track record

The third arm of breast-cancer treatment sometimes used for DCIS is chemotherapy, where powerful cell-destroying drugs are infused into the bloodstream. In this case, Swedish cancer statisticians carried out the massive job of marshalling together all the evidence from over 200 separate trials of the world's major chemotherapy drugs.

The most positive news they could find was that chemotherapy reduces death rates in some breast-cancer cases by, at best, 12 per cent. But, for most women with the disease, chemotherapy fares very much worse.

The open secret in medicine is that the conventional treatments for breast cancer, as with DCIS itself, are still largely a mystery. Despite all the fanfare about winning the war on cancer, the best statistics still come from alternative practitioners.

Surgical overkill

When true breast cancer strikes, the usual slash, burn and poison treatments have an equally unconvincing track record.

A major study examining types of breast surgery reported the results of 20-year follow-ups comparing partial surgery, such as lumpectomy and quadrantectomy, with total breast removal. The question was simple: which technique was better at prolonging life? The answer was equally simple: neither.

There was no difference between the radical and partial surgical procedures in terms of overall survival. This is final confirmation of what many surgeons have long suspected, and should stop the last relics of the old surgical guard, who persist in performing radical mastectomies without offering women a choice (N Engl J Med, 2002; 347: 1227–32, 1233–41, 1270–1).

In a study that ran from 1973 to 1980, Italian researchers randomised 701 women with breast cancer (2 cm in diameter or smaller) to either radical mastectomy or breast-conserving surgery followed by radiotherapy. Tumours recurred in the same breast in 30 women who had breast-conserving surgery and in eight who had radical surgery. However, after 20 years, there was no significant difference in rates of death from all causes or in the occurrence of cancer in the other breast (N Engl J Med, 2002; 347: 1227–32).

But what about women with a familial history or genetic risk of breast cancer? Should they have a mastectomy just in case? No, according to a recent review.

In the opinion of Ian S. Fentiman, professor of surgical oncology at Guy's Hospital in London, a doctor's powers of prediction are still very poor. He notes one retrospective study where, using a standard model of prediction, it was concluded that 76 cases of cancer would appear in the 17 years of follow-up. In the event, only seven cases arose.

Even as these operations are being carried out, the relative risk of a woman with a genetic anomaly developing breast cancer is being revised. For instance, almost half the cases of familial breast cancer are due to BRCA1 mutations on chromosome 17q21. Yet, the lifetime risk of a woman with BRCA1 mutation developing breast cancer has recently been lowered from 90 per cent to 56 per cent.

Neither, says Fentiman, does a radical mastectomy guarantee freedom from cancer, since cancer cells can lurk in places

How to prevent breast cancer

- **Maintain a healthy weight**. Obesity increases your risk of postmenopausal breast cancer by 50–100 per cent (Am J Clin Nutr, 1987; 45: 289). It also increases your risk of dying from the disease (Am J Clin Nutr, 1987; 45: 271–60).
- **Stick to a low-fat, high-fibre diet and cut down on animal fat**, which accumulates pesticides and other contaminants. Avoid dairy products, particularly non-organic foods, as much as possible. Nuclear power plants release carcinogenic byproducts, such as strontium-90, a deadly radioactive isotope, into the atmosphere, which contaminate the grass and water on which dairy cows feed, and make their way into products such as milk and cheese. Studies of New York's Nassau and Suffolk counties, each of which houses a major nuclear reactor, show that the risk of dying from breast cancer there has increased sharply as strontium-90 levels have risen (Int J Health Serv, 1993; 23: 783–804).
- **Eat organic wholefoods and organic free-range meat**. Numerous studies of pesticides show that these chemicals pose a breast-cancer risk by acting as pseudo-oestrogens (J Natl Cancer Inst, 1993; 85: 648–52). Non-organic meat and milk are also infested with growth-boosting hormones and pesticides, which increase breast-cancer risk.
- **Avoid meat products** like sausages or hot dogs containing nitrite preservatives. These form nitrosamines, very potent cancer-causing chemicals, in the body.
- **Eat deepsea fish**, which is less likely to be polluted with pesticides and other carcinogenic industrial wastes than freshwater fish. These include Arctic char, halibut, orange roughy, red snapper, sea bass and tuna. Wild shrimp and lobsters from Australia, California, Mexico and New Zealand are also safe.
- **Limit alcohol**, which causes oestrogen levels to rise sharply. One drink daily poses an 11–40 per cent increase in risk for women of all ages (Cancer Causes Control, 1994; 5: 73–82; J Natl Cancer Inst, 1995; 87: 923–9). Women who are taking HRT are at an especially high risk (JAMA, 1996; 276: 1747–51). Levels of circulating oestrogen nearly double after drinking just half a glass of wine. Booze also contains carcinogenic contaminants which can increase breast-cancer risk.
- **Stop smoking**.
- **Avoid drinking tapwater**, which can also contain industrial carcinogens.
- **Avoid packaged food**. Whenever possible, avoid buying canned foods or foods wrapped in plastic. If you must buy them, make sure to remove the food from the packaging as soon as possible. Use glass cookware for oven or microwave.
- **Consume** unprocessed soy foods, flavonoids, fibre (in whole grains, fruits, vegetables and legumes), olive oil, brown kelp, garlic, crucifers (such as cabbage and broccoli), carotenoids (such as carrots, squash and sweet potatoes, vitamin E and selenium rich foods, which all are proven cancer fighters.
- **Take regular moderate exercise** (and get your daughter exercising regularly after the age of 8). A 1989 study of 7,400 women found a 70 per cent increased risk of breast cancer among inactive postmenopausal women, compared with active ones (Am J Public Health, 1989; 79: 744-50). Exercising four hours a week consistently can reduce your risk of breast cancer by up to 60 per cent (J Nat Cancer Inst, 1994; 86: 1403-8).
- **Avoid dyeing your hair as long as possible**. If you must, consider highlights and other methods which avoid having chemicals come in direct contact with your scalp.

on the breast that are not removed. As data on the protective effect of prophylactic or just-in-case mastectomy is thin on the ground, he suggests there is an urgent need to keep a register of women who have had such surgery so that its efficacy can be checked against eventual cases of cancer (BMJ, 1998; 317: 1402–3).

Your self-help treatment programme

Avoid the following, which can cause cancer

- Radiation therapy, such as for cancer (J Natl Cancer Inst, 2001; 93: 618–29)
- Hormones, diethylstilboestrol (DES, the 'thalidomide drug'), HRT and the Pill all increase risk by up to 70 times (Nurs Pract, 2003; 28: 26–32, 35; Can Med Assoc J, 2002; 166: 1017–22; Lancet, 1989; i: 973–82)
- Statins, if you are under age 55 (J Clin Epidemiol, 2003; 56: 280–5)
- High-blood-pressure drugs, such as calcium-channel blockers, particularly if you are also taking oestrogen drugs (Cancer, 1997; 80: 1438–47)
- Tricyclic antidepressants (Br J Cancer, 2002; 86: 92–7)
- Parabens (methyl-, propyl-, ethyl-, butyl-), commonly used in deodorants, foods, drugs and cosmetics (J Appl Toxicol, 2004; 24: 5–13; J Steroid Biochem Mol Biol, 2002; 80: 49–60)
- Dark or red hairdyes, implicated in studies of hairdressers
- Shift-working, which can moderately increase risk due to suppression of melatonin (J Natl Cancer Inst, 2001; 93: 1563–8)
- Excessive exposure to electromagnetic fields (for example, working as telephone operators or installers, or computer programmers) (Ann Epidemiol, 2000; 10: 31–44)
- Wearing a bra for more than 12 hours a day, as this blocks the lymphatic system, causing toxins to pool (Townsend Lett Docs, Feb/March, 1996)
- Garden pesticides, such as DDT, dieldrin, polychlorinated biphenols and dioxins, which are all oestrogen mimickers (Int J Occup Med Environ Health, 2003; 16: 113–24).

Do the following, which lowers your risk

- Eat organic unprocessed foods
- Wash off the pesticides from non-organic fruit and vegetables
- Filter your water (reverse osmosis is best)
- Use deodorants, makeup and toiletries without parabens, TEA, DEA and artificial sunscreens
- Drink red wine, which lowers cancer risk (Cancer Epidemiol Biomarkers Prev, 2000; 9: 151–60)
- If you drink other types of alcohol, take a daily vitamin supplement
- Take regular exercise and keep your weight down
- Sleep in the dark
- If you're a night-shift worker, take melatonin supplements (Histol Histopathol, 2000; 15: 637–47)
- Drink green tea daily; it halves breast-cancer risk (Int J Cancer; 2003; 106: 574–9)
- Eat lots of fruits and vegetables, particularly broccoli, cabbage, brussels sprouts and other cruciferous vegetables.

High-dose chemotherapy

One of the most recent treatment regimes for women with true breast cancer is to blast it out with high-dose chemotherapy. Many frightened patients have decided to gamble on such high-dose chemotherapy in the US, where it has been made readily available following encouraging results.

However, oncologists in Europe have been less keen to introduce it as routine practice. Indeed, this was the controversial treatment unsuccessfully tried by the late Linda McCartney, wife of ex-Beatle Paul. And indeed, a number of trials have now concluded that this form of treatment is dangerous and of little benefit.

An early report of a recent trial has shown that high-dose chemo does not improve survival in women with metastatic breast cancer (Lancet, 2000; 355: 905).

In this study, conducted at the University of Pennsylvania Cancer Center, there was no significant difference between those receiving standard-dose compared with high-dose chemotherapy in either three-year survival rates or the median time the disease took to progress.

Of 553 women, aged 18 to 60, with untreated metastatic (spreading) breast cancer, 310 responded partially or completely to treatment. Of these, 110 received high-dose chemo with stem-cell rescue

and 89 were treated with conventional chemotherapy, a difference that is not considered significant.

The only difference between the two groups was in the effects of the different drug dosages: the high-dose group had a higher rate of moderate-to-severe (non-fatal) side-effects than the standard group. High-dose chemo simply increased side-effects without offering any clear benefits.

These results came only a month after Werner Bezwoda, professor and author of a study into the efficacy of high-dose chemotherapy and stem-cell transplants in the treatment of breast cancer, admitted falsifying his evidence.

In light of this guilty admission, *The Lancet* medical journal published a re-analysis of some of his study data (Lancet, 2000, 355: 999–1003).

While the initial reports of the Bezwoda study showed significant survival advantages for women on a high-dose regimen, a record review by a team of American researchers revealed serious irregularities. There were discrepancies between the recorded and presented data, the women had not signed informed-consent forms to participate in the trial and there was no record of any approval of the study protocol by the appropriate committee. After the investigation, Bezwoda admitted using a control protocol that was different from that described in the presented data.

At this time, admits *The Lancet*, which published the study, there is no good evidence to justify such an aggressive regime (Lancet, 2000; 355: 944–5).

Among the other research into this aggressive anticancer treatment, one study reported that it was responsible for nearly 8 per cent of deaths.

In fact, of all the trials of high-dose chemotherapy, only one found it to be beneficial (Lancet, 1999; 353: 1633).

Other research shows no benefit with high-dose chemo over the standard variety, according to the Dutch.

At the Netherlands Cancer Institute in Amsterdam, 81 premenopausal women with stable, node-positive breast cancer were studied. All underwent standard treatment—three cycles of presurgical chemotherapy, and the drugs cyclophosphamide, epirubicin and fluorouracil weekly for three weeks.

The women were randomised into two postsurgical groups: conventional chemo and two years of tamoxifen or further high-dose chemo plus tamoxifen.

At the follow-up at 72 months, there were no differences between the two groups in either overall survival or disease-free state. Furthermore, all the women in the high-dose group became irreversibly infertile (Lancet, 1998; 352: 515–21).

Radiation

Radiotherapy is often offered to breast-cancer victims after surgery to mop up any stray cancer cells. Of all the hardcore, radical conventional treatments, radiation has some evidence of helping—but only in the short-term.

One American study followed nearly 2000 women given one of three treatment regimes—total mastectomy, lumpectomy alone, or lumpectomy with breast irradiation—over 20 years. Those undergoing the lumpectomy plus radiation had a 14.3 per cent recurrence of tumour, compared with more than twice that—39.2 per cent—in women who'd received lumpectomy without irradiation.

However, there were no significant differences among the three groups in overall, disease-free or long-term disease-free rates of survival. The researchers also noted that, although radiation therapy was associated with a marginally significant decrease in deaths due to breast cancer, this decrease was partially offset by an increase in deaths due to other causes. This may mean that the radiation weakens your body, making it susceptible to other disease.

Ultimately, however, these results suggest that dealing with breast cancer conservatively (with a lumpectomy) works just as well as bombarding yourself with the other heroic measures (N Engl J Med, 2002; 347: 567–75, 1233–41).

Tamoxifen

Originally hailed as a major contribution to breast-cancer prevention, tamoxifen has had a bumpy ride since AstraZeneca first launched it more than 15 years ago.

Before the latest trial, three separate clinical research groups, one in the US and two in Europe, had already put the drug to the test—with mixed results. While

a 50 per cent decrease in breast cancer was reported in the US, the European trials showed “little or no” benefit from the drug.

But this was before the results of a fourth investigation were announced by a UK cancer-research team.

For five years, more than 7000 women aged 35–70 were given either 20 mg/day of tamoxifen or a placebo. At the end of the trial in January 2002, a total of 180 women (2.5 per cent) had breast cancer.

At first sight, these results appeared to be marginally favourable to tamoxifen as 69 women taking the drug had succumbed to the disease, but 101 women in the placebo group had, too.

However, when the researchers looked at the rates of death, the situation was

Breast cancer: is veggie best?

The recent death of vegetarian Linda McCartney has highlighted vegetarianism and breast cancer. Numerous studies have found that a vegetarian diet protects against breast cancer; one showed a 50 per cent decline in premenopausal breast cancer among vegetarians (Cancer, 1989; 64: 582–90; Br J Cancer, 1994; 70: 129–32; Am J Epidemiol, 1988; 127: 440–53).

However, one little publicised finding (N Eng J Med, 1996; 334: 356–61) was an increase in the death rate from breast cancer among vegetarian women, which the authors were unable to explain. Although the presumption is that the lower fat intake among vegetarians accounts for lower levels of breast cancer, a pooled analysis of studies of fat intake and the risk of breast cancer showed no association whatsoever.

Recently, Professor Tom Sanders, of the Department of Nutrition and Dietetics at King's College, London, quoted two studies which dispute the claim that vegetarian women are less likely to develoop breast cancer (Nutr Bull, 1998; 23: 88–93). One revealed an excess of breast cancer among members of the Vegetarian Society. In the other, Dr Tim Key of the Imperial Cancer Research Fund reported a significant increase in the risk of breast cancer in vegetarian healthfood-shop consumers compared with those who eat meat.

Key is also quoted as saying that studies into Seventh Day Adventists do not support the idea that vegetarianism reduces the risk of breast cancer. At best, says Key, there is no difference between Adventists and the rest of the population.

Published evidence is, in short, contradictory. Before drawing any firm conclusions, researchers will need to control for other factors such as the number of children a woman has and whether she has breastfed, which protects against breast cancer, as well as for such clear risk factors as hormone consumption in the form of HRT or the contraceptive Pill.

According to Samuel Epstein, author of *The Politics of Cancer* and a world authority on environmental causes of cancer, the main risks of cancer are:

- **Modern medical risks**
  - Early and prolonged use of the Pill
  - Oestrogen-replacement therapy using high doses for long periods of time
  - Premenopausal mammography, with early and repeated exposure
  - Non-hormonal prescription drugs, such as some antihypertensives
  - Silicone breast implants, especially those wrapped in polyurethane foam.
- **Dietary and environmental risks**
  - Diets high in animal fat, contaminated with undisclosed carcinogens and oestrogenic chemicals
  - Exposure to household chemicals or pollution from neighbouring chemical plants and hazardous waste sites
  - Workplace exposure to a wide range of carcinogens.
- **Lifestyle risks**
  - Alcohol, with early or excessive use
  - Tobacco, with early or excessive use
  - Inactivity and sedentary lifestyle
  - Dark hair dyes, with early or prolonged use.

My low-cost, natural, home cure for breast cancer

I was shattered when I was told I had cancer. The doctor said I had to have a radical mastectomy on the right breast and a partial mastectomy on the left breast, followed possibly by chemotherapy or radiotherapy, or both, and removal of lymph nodes if deemed necessary.

It was obvious from the Internet that people in America treat many different types of cancer with a non-carcinogenic, organic diet and vitamins and minerals, plus other natural plant extracts.

I then decided to seek another opinion from Dr Jean Monro, who runs her own Allergy & Environmental Medicine Hospital in Hemel Hempstead, Hertfordshire (01442 261 333), as I had known her for many years, and felt I could rely on her implicitly. She confirmed that I had Paget's disease of the nipple, which could produce multiple tumours overnight, and which could spread rapidly. Together, we designed a programme of treatment, including vitamins A, C, E, all the Bs, magnesium, betaine, folic acid, linseed oil capsules and other items, some of which had to be taken intravenously.

Within a fortnight, I felt 20 years younger. On 1 February 1999, my blood-test results were normal; the cancer had regressed and was no longer evident. My intravenous injections were gradually reduced one by one, and I have now ceased my hospital treatment.

My oral supplements, which I take at home, include vitamins and minerals, plus other supplements and natural plant extracts. I also take Jason Winter's tea, and Essiac.

Four years later, an oncologist confirmed that my cancer had returned. From there onwards, I have been following my non-carcinogenic diet, with what vitamins and minerals I can afford. Not having any spare capital, I could not repeat the private-hospital treatment, my first choice in 1998.

I now buy amygdalin (B17) [usually extracted from apricot kernels] through a group that imports it from Mexico. I also take plant enzymes that work synergistically with B17, and Essiac tea, among other items.

Within three months, my symptoms were gone. I had a private blood test done, and the result was normal. I made an appointment to see the hospital senior oncologist who had confirmed my diagnosis. On 13 June 2003, I was physically examined with great care, and was told by the oncologist that he could find no signs of cancer anywhere in my body!

This time, instead of the many thousands of pounds which I had to spend in 1998 at the private hospital, my whole programme of anticancer treatment cost me less than £500.

I think it's time that cancer-research organisations began to look more seriously at natural treatments for cancer.—**Hilary Englefield, West Ashling, West Sussex**

totally reversed. More than twice as many women died while taking tamoxifen as with the placebo.

The researchers proposed that the drug's side-effects could be the reason. During the trial, tamoxifen was found to cause severe gynaecological problems, resulting in an unusually high rate of womb and ovary removal.

But the most damaging side-effect was the appearance of bloodclots, and these were apparently responsible for every one of the deaths among the women taking the drug (Lancet, 2002; 360: 817–24).

Other studies show that tamoxifen causes an aggressive cancer of the uterus—the reason for the US Food and Drug Administration's black-box warning.

The FDA already knew that the drug caused a less dangerous type of uterine cancer—endometrial adenocarcinoma—which can be detected and treated in its early stages.

The risk is confined to two groups—women who are taking the drug as a just-in-case therapy because of a family history that suggests they are at higher risk of breast cancer, and those who have DCIS.

Women who have had breast cancer and are taking the drug to prevent a recurrence are apparently at a low-to-nil risk.

Women in the two at-risk groups need to weigh up the risks and benefits of starting the drug, says the FDA, and this is especially so for those taking it 'just in case'.

Uterine sarcoma occurs in 0.17 women per 1000 a year who take tamoxifen compared with just 0.01 cases per 1000 a year in the general population. Since 1978, when tamoxifen was licensed in the US, 159 cases of uterine sarcoma have been reported among those taking the drug worldwide (BMJ, 2002; 325: 7).

Furthermore, the studies show that not all women benefit from tamoxifen. Although BRCA2-positive women who use tamoxifen may be less likely to develop breast cancer than those using a placebo, BRCA1-positive women derive no protection from taking the drug.

Researchers at the University of Washington in Seattle studied 19 women with BRCA1 or BRCA2 gene mutations participating in the Breast Cancer Prevention Trial (BCPT), part of the National Surgical Adjuvant Breast and Bowel Project.

In this trial, cancer-free high-risk women, 35 or older, were randomly allocated to receive tamoxifen or placebo as a cancer-prevention agent.

For the 11 women with the BRCA2 gene mutation, taking tamoxifen was linked to a 62 per cent reduction in breast-cancer risk due to a reduction in the incidence of oestrogen receptor-positive cancer, say the researchers. But for the eight women with a BRCA1 gene mutation (in other words, 42 per cent of the women in the study), tamoxifen did not lower their breast cancer risk (JAMA, 2001; 286: 2251–6).

Other research shows that women taking tamoxifen to control cancer in one breast have a greatly increased risk of developing a tumour in the other breast.

In one American study, which ran from 1990 to 1998, researchers followed nearly 9000 women who were diagnosed with a primary localised or regional invasive breast cancer in one breast only. The women were aged 50 or older, and were receiving hormonal (tamoxifen) therapy, but not chemotherapy. They were followed until either the study ended, a cancer developed in the other breast or they died.

The researchers found that, while tamoxifen apparently protects against oestrogen-receptor (ER)-positive tumours, tamoxifen users had a nearly fivefold increased risk of developing an ER-negative tumour in the healthy breast. ER-negative tumours are not only more difficult to treat, but they are also associated with a high death rate and an 8 to 35 per cent lower five-year survival rate (J Natl Cancer Inst, 2001; 93: 1008–13).

Even the most favourable studies show that breast-cancer patients have nothing to gain from taking tamoxifen for longer than five years.

When researchers analysed data from 1172 women randomly assigned to either continue taking the drug after five years or take a placebo, they found that those on the placebo had a greater chance of being disease-free after seven years (82 per cent *versus* 78 per cent with tamoxifen).

The benefit may be small, but given the potential adverse effects of tamoxifen, which include an increased risk of endometrial abnormalities, many women may welcome the news that the drug does not need to be taken long term (BMJ, 2001; 322: 1140).

Just-in-case medicine

Women have been so indoctrinated with the idea that breast cancer is genetic that many are rushing to have 'prophylactic' mastectomies because a relative had cancer. Yet, a UK report confirms that, although women who have a close family member with breast cancer do have an above-average risk of developing the disease, the risk is not as great as is often feared.

In fact, say researchers at the Imperial Cancer Research Fund's Cancer Epidemiology Unit in Oxford, most women with a family history of breast cancer will never develop the disease. Similarly, most women who get breast cancer don't have a close relative with breast cancer.

The investigators analysed 52 studies with 58,209 women with breast cancer and 101,986 cancer-free women. They found that four out of five women with a mother and sister with breast cancer will not develop breast cancer, and 12 out of 13 will not die from the disease.

These data do indicate, however, that with a family history of breast cancer, the

Alternative cancer treatments

Indeed, if you have DCIS, experts such as Dr Samuel Epstein, a world authority on cancer, favour the watch-and-wait approach, with frequent monitoring. You should only consider treatment if it turns into true cancer. If it does, many alternative treatments have shown good success. The following are recommended by the US charity organisation People Against Cancer (www.peopleagainstcancer.com).

- **A strict wholefood, unprocessed diet**
  - *Exclude* sugary and fatty foods, dairy and wheat
  - *Include* an intensive nutritional supplementation programme, including high-dose vitamin C, beta-carotene, vitamin B-complex, selenium, zinc, coenzyme Q10, fish oils and vitamin B17 (apricot kernels).
- **An intensive detoxification programme**
  - Eliminate mercury from amalgam tooth fillings and from anywhere else in the body. Most cancer patients have high levels of this heavy metal
  - Try coffee enemas, which will stimulate the liver to excrete toxins.
- **Gentler anticancer therapies**
  - Short-term high-dose hormone blockers. Dr Axel Weber, in Bavaria, gives the hormone-blocker busarelin at 20–40 times the usual dosage—but for no longer than 12 weeks. This is one of the more promising regimes, says the PAC
  - Intravenous hydrogen peroxide
  - High-dose vitamin C treatment offers at least a 16-fold increase in life expectancy (J Ortho Med, 1990; 5: 143–4)
  - Heat therapy (hyperthermia) applies heat to the tumour using highly focused radiowaves, raising the tumour temperature to about 44 degrees C. This kills cancerous cells, but not healthy ones
  - Infusions of laetrile (an anticancer compound derived from apricot kernels) and/or melatonin (an antioestrogen)
  - Ozone therapy enriches the patient's blood with ozone to 'activate' the red and white cells, stimulating the immune system to cure itself
  - THX/Thymex-L, a thymus extract believed to boost the immune system
  - Low-dose interleukin-2, an immune booster, with or without antihormone therapy
  - Immune augmentation therapy, in which anticancer 'immune complexes', harvested from the blood of healthy donors, are infused into the cancer patient.

risk increases with the number of close relatives who have the disease.

For women who have one close family member with breast cancer, the lifetime risk is 8 per cent. This increases to 13.3 per cent for those who have two close relatives with the disease, and to 21.1 per cent for those with three close relatives with breast cancer. Most women with affected relatives who go on to develop breast cancer themselves acquire the disease at age 50 or later.

Nevertheless, eight out of nine women diagnosed with breast cancer—regardless of age—don't have an affected mother, sister or daughter (Lancet, 2001; 358: 1389–99).

Furthermore, studies estimating the lifetime risk of women who have the BRCA1 and BRCA2 genetic mutations developing breast cancer may have exaggerated the risk by only looking at high-risk families, say researchers in the US.

A re-analysis of mutation-carrying breast cancer patients who were not selected according to family history resulted in lower estimates of risk—from 71–85 per cent to 45–68 per cent.

Such overestimations may occur because breast cancer risk is not only associated with these mutations, but with other, external risk factors as well, which may have skewed past estimations (J Natl Cancer Inst, 2002; 94: 1221–6).

The open secret in medicine is that the conventional treatments for breast cancer, as with DCIS itself, are still largely a mystery. Despite all the fanfare about winning the war on cancer, the best statistics still come from alternative practitioners.

CHAPTER 2 Prostate cancer: the Terminator illness

Doctors sell prostate-cancer patients on surgery as the only way to treat the disease once and for all. Yet, evidence is mounting that, in a high percentage of surgical cases, the cancer soon comes back.

As smoking has declined, prostate cancer has overtaken lung cancer as the biggest killer cancer of men in the Western world. One in 12 will develop a clinically significant prostate disease in their lifetime. Each year, some 10,000 men in the UK and more than 40,000 in the US die of the disease.

The scandal of prostate cancer is not just the burgeoning incidence of the disease, suggesting that something in the Western lifestyle is proving deadly to the male constitution, but also the ruinous way in which modern medicine treats it.

In the vast majority of cases, the so-called 'treatment' leaves the patient worse off than having the disease—incontinent, impotent and likely, in 40 per cent of cases, to have the cancer return.

Doctors have been using the same treatment methods for more than 30 years. Despite this, a recent scientific review candidly admits that "the optimal treatment for localised prostate cancer is still not known" (Lancet, 1997; 349: 906–10).

Conventional therapy comprises the traditional trio of surgery, radiation and drugs. The most common surgical technique is transurethral prostatectomy, or TURPS, in which the prostate is cut or burned away by an instrument inserted down the penis. Surgery is recommended for both prostate cancer and benign prostatic hyperplasia (BPH), a non-life-threatening, age-related enlargement of the prostate.

The side-effects of surgery are both severe and debilitating. In addition to possible prolonged bleeding from the prostate itself, many men are rendered permanently incontinent. Furthermore, a shocking 80 per cent will be rendered impotent as well (J Natl Cancer Inst, 2000; 92: 1582–92). There is considerable anecdotal evidence that doctors choose to withhold this devastating information from their patients before they operate.

New surgical techniques such as cryotherapy (freezing) and so-called 'nerve-sparing surgery' don't appear to appreciably reduce these side-effects either (J Urol, 1996; 156: 115–21; JAMA, 2000; 283: 354–60).

Although doctors often suggest otherwise, surgery is not guaranteed to solve the problem of prostate enlargement. Worse, there is a significant risk of recurrence, whether it's BPH or cancer.

A study by the prestigious Mayo Clinic in the US showed that prostate cancer returned within a year in more than 8 per cent of the men they treated. This rate of recurrence rose to 40 per cent 10 years after the surgery (US National Cancer Institute Statement, July 2001).

Radiotherapy has an equally unimpressive record. This treatment is applied either externally by X-rays or internally with the use of radioactive implants (also called brachytherapy).

Radiation is frequently called upon to solve the recurrence problem after surgery, but a recent analysis has shown this to be of "limited efficacy" (Int J Radiat Oncol Biol Phys, 2002; 53: 269–76). And, of course, it comes with a host of side-effects, including bowel and urinary problems as well as impotence.

The conventional drug treatment for prostate cancer is not the standard cancer chemotherapy (which is believed to be largely ineffective), but uses drugs that block male hormones, principally testosterone. This is because prostate cancer is thought to need testosterone to grow.

It is claimed that drug therapy can improve survival rates by up to 20 per cent. However, it has been found that, after a certain time, the drugs will often stop working—and some prostate cancers don't respond to hormones at all (Prostate Cancer Prostatic Dis, 2002; 5: 13–5).

As a recent study by Sweden's Karolinska Institute admits, hormone therapy has

Prostate cancer: the hard statistics

Prostate cancer seems to be ultimately unavoidable. Autopsies of men who have died of other causes show that around 40 per cent over the age of 50 have prostate cancer. The risk rises steadily through the decades so that, by age 80, 70 per cent of men will have it. For men in their 90s, it's a near certainty.

Fortunately, prostate cancer is slow-growing, so most men will die of something else before the cancer becomes a problem. In other words, they die with prostate cancer rather than because of it. Surveys show that, for the average 50-year-old with a reasonable life expectancy of another 25 years, there's a 10 per cent chance that he will develop clinically significant prostate cancer, but only a 3 per cent chance that he will die of it (National Cancer Institute Statement, August 2001).

For reasons unknown, black people are at a much higher risk than Asians or whites. Japanese men living in Japan have an extremely low incidence of prostate cancer, but are at normal risk if they live in the US (National Cancer Institute Statement, August 2001). This strongly suggests the involvement of environmental factors in the disease.

turned out to be "disappointing". Indeed, the report concluded, "No decisive breakthrough in the pharmacological treatment of prostate cancer has occurred in the last 60 years" (Lakartidningen, 2000; 97: 3466–9).

As prostate chemotherapy destroys male hormones, it is sometimes referred to as 'chemical castration'. Predictably, its main side-effect is to curtail sexual functioning. But it also causes osteoporosis, nausea and severe anaemia, and has even killed people through liver toxicity.

Because of the high cost of hormone-blocking drugs, doctors may recommend actual physical castration as a cheaper option. Particularly in the UK, this is considered the 'gold-standard' treatment for cases of advanced prostate cancer (Br J Hosp Med, 1993; 49: 710–1, 714–5).

However, since there have been no prospective randomised trials of the treatment options, there is little evidence that any medical intervention currently on offer actually prolongs life. As a statement from the US National Cancer Institute bluntly put it, "It is not known if the potential benefits of prostate cancer screening outweigh the risks, if surgery is better than radiation, or if treatment is better than no treatment" (US National Cancer Institute Statement, October 2000).

This may explain why, besides surgery, radiation and drugs, there is a fourth treatment—do absolutely nothing. The official medical term is 'watchful waiting'. There is evidence to show that this is often the best option.

In the biggest-scale study to date, 60,000 Americans diagnosed with localised prostate cancer in the 1980s were followed-up for 10 years to compare the effects of different treatments.

For men with minor to medium-stage cancer, there were just as many men still alive after no treatment as after surgery. Radiation treatment appeared to actually increase death rates. Only in cases of initially serious cancers did there appear to be any (albeit slight) survival advantage of "aggressive therapy" over watchful waiting (Lancet, 1997; 349: 906–10).

However, even these findings—which were effectively indicating that having no treatment was as good as or better than any treatment—were soon attacked as "exaggerating the benefits of treatment" (Lancet, 1997; 349: 1551–2).

Dietary strategies

Some experts are now beginning to concentrate on prevention—mainly through dietary changes. Even such bastions of the cancer Establishment as the Sloan-Kettering Cancer Center in New York are contemplating dietary manipulation as a "treatment strategy" (Semin Urol Oncol, 1999; 17: 154–63).

Despite the initial medical scepticism, evidence of a connection between diet and prostate cancer has been getting stronger year by year. There is relatively good evidence of an association of the condition with a high-fat diet, although recent studies suggest that reducing fat intake does not have a marked preventative effect (Curr Opin Urol, 2001; 11: 457–61).

There appears to be a stronger connection with dairy foods. Studies in the US and

The problem with the PSA test

The prostate gland is a walnut-sized organ that sits invisibly between the rectum and scrotum, close up against the bladder. It surrounds the urethra, the tube which carries urine. The prostate's only function appears to be to provide the liquid in which sperm are transported on their journey from the testes to the cervix.

Problems with the prostate occur out of all proportion to its biological significance. Up to age 30, it's normally trouble-free but, from age 30 to 50, it can become inflamed due to bacterial infection (prostatitis). Later in life, it may become enlarged. This growth may be cancerous, but if it's non-cancerous, it's called 'benign prostatic hyperplasia' (BPH).

Because the prostate surrounds the urethra, trouble with urination is usually the first sign of a problem. Symptoms include a weak or intermittent urine flow, incomplete voiding, frequent or painful urination and incontinence. The difficulty with self-diagnosis is that all three prostatic conditions may produce any of these symptoms.

Prostatitis is the easiest to diagnose. Because it's caused by a bacterial infection, a simple urine-culture test will often spot it.

BPH is more difficult to diagnose when trying to decide between it and cancer. The most elementary test is to feel for an enlarged prostate. If, indeed, an enlargement is found, the next stage of diagnosis is more complex, problematical and controversial.

Twenty years ago, prostate experts thought they had found the answer when a protein was found in men's blood that seemed to correlate with the presence of prostate cancer. Although it was quickly named 'prostate-specific antigen', there was soon some doubt as to how 'specific' the PSA test actually was.

The first major problem was that the test cannot reliably distinguish between cancerous and non-cancerous prostatic enlargement. It also throws up many false positives and false negatives, so that cancers are either missed or men are subjected to unnecessary treatment (Urologe A, 2000; 39: 22–6). As one report baldly puts it: ". . . two-thirds of men with an elevated PSA level do not have prostate cancer" (Semin Urol Oncol, 1996; 14: 134–8). Finally, there is considerable disagreement over what PSA levels are clinically relevant.

Despite these issues, there has been pressure to use PSA as a screening test in much the same way as mammography was once championed for breast cancer. Enthusiasts claim increased accuracy from new techniques that measure PSA density or relate the test to the patient's age, but the results are still not clear-cut (Urol Clin North Am, 1997; 24: 323–32).

Many experts now admit to "a lack of credible evidence" that PSA screening saves lives. Worse still, they say that screening has actually harmed and even killed people due to the unnecessary treatment it may lead to. A recent Yale University report concluded that screening and the subsequent treatment based on often faulty diagnosis "can be associated with considerable morbidity and mortality in the context of a disease that is often not fatal" (J Sci Am, 2000; 6 [Suppl 2]: S188–92).

One diagnostic test often given by doctors after a positive PSA reading is a biopsy. This involves taking tissue 'cores' from as many as 12 different sites on the prostate to look for cancer cells. The procedure is not without risk: most patients become infected from the procedure itself, 20 per cent suffer severe pain and 15 per cent are rendered impotent (J Urol, 2001; 165: 445–54). There's also evidence that biopsies themselves may be inaccurate, often failing to detect cancerous tissue (Prostate Cancer Prostatic Dis, 2000; 3: 13–20).

Sweden have shown that a high consumption of dairy products can increase prostate cancer risk by 50 per cent. The culprit doesn't appear to be the fat content of milk but—perhaps surprisingly—the calcium. One of calcium's effects in the body is to reduce vitamin D levels, and vitamin D is one of the many micronutrients known to prevent prostate cancer (Cancer Causes Control, 1998; 9: 559–66).

In fact, diets high in vitamins A and E as well as vitamin D all appear to significantly

reduce the risk of prostate cancer. Virtually all of the 100 or so surveys of prostate cancer incidence to date have shown this link. To use the jargon, these vitamins, together with the mineral selenium, appear to be powerful 'chemopreventing agents' (Can J Urol, 2000; 7: 927–35).

In laboratory tests, these vitamins have been shown to inhibit prostate-cancer cell cultures. They've also proved able to slow down the progress of the disease in experimental animals infected with human prostate cancer cells. However, such results do not necessarily apply to humans (Urologe A, 2000; 39: 304–8).

In terms of active prevention, most of the research has been into vitamin E and selenium. The first major study of vitamin E was carried out in Finland, where men aged 50–70 years of age were given 50 mg of vitamin E daily (about three times the recommended daily allowance, or RDA) for more than five years.

Compared with a control group of men who were not given the vitamin, the supplemented group had over 30 per cent fewer diagnoses of prostate cancer and over 40 per cent fewer prostate cancer deaths (J Natl Cancer Inst, 1998; 90: 440–6). However, later analyses have slightly modified the original findings, revealing that only men who were initially deficient in vitamin E actually benefited (Urology, 2002; 59 [Suppl 1]: 9–19).

In the first major study of selenium supplementation, which began in 1983 and ran for more than 10 years, 1000 American men were given 200 mcg/day of selenium (three times the RDA of 70 mcg) for an average period of about five years.

The results were remarkable. All of the men in the treatment group showed a massive reduction in the incidence of three major cancers—lung, colon and prostate. The incidence of prostate cancer alone was reduced by more than half (JAMA, 1996; 276: 1957–85).

Since then, a number of similar trials have found, in general, the same results, including one study from the prestigious Harvard Department of Nutrition run by Professor Walter Willett. He and his team found that the higher the level of selenium in the body, the lower the risk of advanced prostate cancer. In specific terms, the risk was reduced by as much as a third.

The herbal approach

If you haven't managed to prevent prostate cancer and wish to avoid conventional treatments, what can you do?

One answer, until very recently, was a Chinese herbal remedy marketed under the name of PC-Spes ('spes' is the Latin word for 'hope'). This is a formula of eight plants: chrysanthemum, liquorice (*Glycyrrhiza glabra*), Baikal skullcap (*Scutellaria baicalensis*), saw palmetto (*Serenoa repens*), *Isatis indigotica*, *Panax pseudoginseng*, *Rabdosia rubescens* and the root fungus *Ganoderma lucidum*.

PC-Spes took the world of prostate cancer by storm. From the time it first came onto the US market about six years ago, prostate cancer sufferers turned to it in their thousands—mainly through word of mouth.

The effect it appeared to have on prostate cancer was dramatic. Patients said that

The synergy of PC-Spes

How does PC-Spes work?

A number of laboratories have tackled the problem, testing the herbal formula on prostate-cancer cell cultures and mice. One of the first reports to be published discovered "profound biologic effects of PC-Spes on prostate cancer cells", including cell inhibition and cell death.

The researchers believed that the antitumour mechanism of PC-Spes is "complex, involving multiple metabolic pathways" (Urology, 2001; 58 [Suppl 1]: 28–35). This suggested that PC-Spes has a different mode of action from conventional hormone drugs, which could explain why it works when conventional treatment has failed.

When the New York Medical College laboratory tested the individual herbs on prostate-cancer cells, each herb on its own was found to suppress the tumour growth rate—but not to the same extent as the whole formula of herbs used together. "It is unlikely that the activity of a single herb can account for the overall effects of PC-Spes," the researchers concluded (Int J Oncol, 2002; 20: 583–8).

Hormone havoc

We don't historically put men's health problems and hormones together. But it is becoming apparent that a man's health may be every bit as dependent upon hormonal balance as is a woman's—and possibly every bit as delicate.

Recent studies have shown that men are more likely to develop prostate cancer if their mothers took pregnancy and growth hormones during pregnancy. The link was made by Swedish researchers after studying the birth records of 250 men who developed prostate cancer, 80 of whom died from it, and comparing them with the records of 691 other men. The scientists maintained that a very early shock to the system is all that is needed to enable genes to mutate and eventually become cancer (BMJ, 1996; 313: 337–40).

One pilot study showed that athletes who use steroids are more prone to prostatic enlargement and bladder outflow obstruction (Br J Urol, 1994; 74: 476–8).

Men with metastatic prostate cancer also have higher levels of circulating testosterone than healthy subjects (Cancer, 1981; 48: 2267–73). But researchers have found that, at an early stage, the cancerous tissue has more endogenous (made within the body) testosterone than non-diseased tissue. Yet, individuals who have advanced prostate cancer have lower testosterone levels than do their early-stage counterparts.

It seems we have a long way to go before we understand the subtle role hormones play in human health.

not only did it reduce the annoying symptoms of the early stages of the cancer, but it also eased the pain of advanced cancer. Men for whom conventional hormone therapy had failed also claimed to derive benefit from this herbal remedy.

A few cancer specialists were sufficiently intrigued to mount some serious scientific studies on PC-Spes.

In 1998, one US hospital reported their experience with the herbal formula in a handful of patients who had refused conventional treatment. In every case, there was objective evidence of benefit in the form of significant declines in both testosterone and PSA levels (N Engl J Med, 1998; 339: 785–91).

This was followed by a survey of more than 100 prostate patients, 77 per cent of whom said they found PC-Spes to be beneficial. They also showed huge declines in PSA levels, which were taken as a sign of cancer regression. No clinically significant adverse effects were seen (Mol Urol, 1999; 3: 333–6).

In addition, a team at the Oncology Division of New York Medical College published the results of a study using rats injected with 'aggressive' human prostate cancer cells. Conventional treatments are generally not successful in such animals, but PC-Spes produced an overall 50 per cent reduction in cancer and, in a third of the animals, the cancer completely disappeared. Again, no side-effects were seen. It's wise to remember, of course, that animal studies may not apply to humans (Int J Oncol, 1999; 14: 713–9).

Another hospital trial followed in 2000, involving 14 seriously ill men for whom chemical and actual castration had failed. Doctors found that 3 g/day of PC-Spes significantly improved their quality of life and reduced the pain of the disease. And yet again, no side-effects were seen (BJU Int, 2000; 85: 481–5).

Later that year, doctors at the University of California Medical Center in San Francisco gave PC-Spes to 70 patients with progressive prostate cancer, some of whom were not responding to conventional treatment.

The results were positive. Most of the patients showed reduced PSA and testosterone levels, and a few even achieved a regression of their cancer.

In this study, some side-effects were recorded—mostly breast tenderness and diarrhoea, plus a few cases of allergic reactions and deep vein thrombosis—all of which were considered 'acceptable' (Clin Oncol, 2000; 18: 3595–603).

Another hospital study—from Boston's Dana-Farber Cancer Institute, linked to Harvard—found similar results to the earlier studies. They concluded that "PC-Spes is a well-tolerated and active treatment for prostate cancer" (Urology, 2001; 57: 122–6).

Preventing prostate problems naturally

Although prostate cancer is ultimately inevitable if you live long enough, there are many ways to delay its onset or reduce its symptoms.

- **Take plenty of exercise**. If you have a sedentary job, walking is the best exercise to prevent prostate cancer (Cancer Causes Control, 1998; 9: 11–8). If you develop the disease, keep up your fitness regime. It will slow the cancer down, particularly when combined with a high-fibre, low-fat diet (J Urol, 2001; 166: 1185–9).
- **Cut down on dairy products**, as calcium may be a problem (see page 23).
- **Drink green tea—often**. Regular green-tea drinkers have a lower risk of prostate cancer. The Chinese, who consume the most green tea in the world, also have the least prostate cancer in the world (Semin Urol Oncol, 1999; 17: 70–6).
- **Eat lots of soya-based foods, such as tofu**. There is some evidence that the high consumption of soya foods in Japan explains why they have 15 times less prostate cancer than Americans do. The active ingredient in such foods is genistein, which has been found to inhibit the growth of prostate cancer cells in the laboratory (Am J Clin Nutr, 1999; 70: 439S–50S).

  Genistein is also found in red clover. On its own, it has been found to slow BPH and prostate cancer in animals (Prostate Cancer Prostatic Dis, 2002; 5: 16–21). However, the findings of studies on genistein and other isoflavones are conflicting, and there could be adverse effects due to the hormone-like actions of these substances.
- **Take saw palmetto** (*Serenoa repens*) as a herbal extract; it's thought to counteract the hormonal imbalances that may cause prostate problems (Br J Clin Pharmacol, 1984; 18: 461–2). It reduces the symptoms of BPH and cancer, too (Urology, 2001; 58: 960–3).
- **Eat lots of tomatoes**—preferably cooked, or in products such as ketchup and tomato paste. The active anticancer ingredient is lycopene, a carotenoid that gives tomatoes their red colour. A six-year Harvard study revealed that men who ate tomato-based foods more than 10 times a week had a 50 per cent reduction in prostate cancer risk (J Natl Cancer Inst, 1995; 87: 1767–76).

  There's also recent evidence that lycopene supplements (30 mg/day) can shrink prostatic tumours even after they have developed (Cancer Epidemiol Biomarkers Prev, 2001; 10: 861–8).
- **Take 50 mg of vitamin E** and **200 mcg of selenium a day**.
- **Take a zinc supplement**. Cancerous and enlarged prostates contain less zinc than normal prostates (Int Urol Nephrol, 1991; 23: 151–4). A daily supplement has been found to reduce cancer risk by 45 per cent (Cancer Epidemiol Biomarkers Prev, 1999; 8: 887–92).
- **Cut down on red meat** (J Natl Cancer Inst, 1993; 85: 1571–9).
- **Certain constituents of the dietary supplement known as conjugated linoleic acid (CLA) may have a role to play** in fighting prostatic and colorectal cancer cells, according to the results of a new US laboratory study. A naturally occurring fatty acid found primarily in milk, beef and dairy products, CLA is a member of the omega-6 family. Therapeutically, however, it mimics the activity of omega-3 fatty acids such as flaxseed and fish oils, which have been proven to have significant health benefits (Cancer Lett, 2002; 177: 163–72).
- **Increase your intake of fish**. Men who consume moderate-to-high amounts of fatty fish such as salmon, herring and mackerel, which contain high levels of omega-3 fatty acids, appear to have a significantly reduced risk of prostate cancer. In one Swedish study, those men who did not eat fish had a two- to threefold greater risk of developing prostate cancer compared with men who ate moderate-to-high quantities of fatty fish (Lancet, 2001; 357: 1765–6).

Thus far, there have been over a hundred published studies on PC-Spes, almost all confirming its benefits.

Nevertheless, last February, PC-Spes was suddenly withdrawn from sale.

The official State Laboratory of the California Health Department had tested a sample of PC-Spes and claimed to have found "undeclared prescription drug ingredients that could cause serious health

effects if not taken under medical supervision". The contaminant drugs were warfarin (an anticoagulant) and alprazolam (a benzodiazepine), which are available only on prescription and sold under the names Coumadin and Xanax, respectively. This investigation came on the heels of reports that traces of the synthetic oestrogen diethylstilboestrol (DES) had been detected in some batches of the herbal formula.

What seems most puzzling is why these compounds had evidently not been discovered in any of the earlier PC-Spes studies. However, this raised an official question mark over PC-Spes, and the US authorities lost no time in banning it.

The manufacturer of PC-Spes, a California-based company called BotanicLabs, strongly deny that their product was knowingly contaminated, saying that the chemical signatures of natural herbal compounds may mimic prescription drugs. Some observers also suspect dirty tricks. "We don't have complete control of the supply chain," said BotanicLabs.

Nevertheless, within a month, the firm had closed down. PC-Spes is no more.

"This is a tragedy," says Frank Wiewel of People Against Cancer. "It's signed the death warrant for 15,000 men worldwide whose disease has been kept at bay by PC-Spes."

Alternative treatments

Looking on the brighter side, alternative remedies have had a long history of use worldwide and a good track record in all but the most severe cases of prostate cancer. If your prostate has deteriorated due to medical mismanagement, many of the alternatives hold the promise of improvement.

Herbs

The herb of choice appears to be saw palmetto (*Serenoa repens* or *Sabal serrulata*). A small palm tree which grows on the American Atlantic seaboard, its berries contain approximately 1.5 per cent fatty acids as well as sterol, which affects testosterone metabolism. Like the drug finasteride (Proscar), sterol is a 5-alpha-reductase inhibitor that blocks the formation of di-hydrotestosterone, thought to be respon-sible for prostate enlargement. It may also have antioestrogenic properties (Eur Urol, 1992; 21: 309–14).

The precise mechanism of saw palmetto is not well known (Eur Urol, 1997; 31: 97–101), though it's thought to act on the epithelial and stromal enzymes—those which occur in the fibromuscular cells—of BPH tissue.

Other studies have shown how saw palmetto selectively antagonises 53 per cent of the dihydrotestosterone receptors in the prostate, inhibiting the hormone from binding to them and therefore minimising its stimulation of cell growth (J Steroid Biochem, 1984; 20: 515–9). Like breast cancer, prostate cancer is often stimulated by hormones.

A further study comparing Proscar and *Serenoa repens* in a preparation called Permixion showed that Permixion was equally as effective in reducing serum testosterone, although Proscar did promote a greater short-term reduction in dihydrotestosterone (Eur Urol, 1994; 26: 247–52).

Two other herbs of note are stinging nettle (*Urtica dioica*) and *Pygeum africanum*. *Urtica* is thought to modulate the activity of globulin receptors which bind sex hormones to the prostatic membranes (Planta Med, 1995; 61: 31–2), thus addressing hormonally dependent prostate conditions.

One study showed that nettle root can inhibit membrane activity of the prostate and, therefore, may subsequently suppress prostate cell metabolism and growth, reducing the chances of enlargement and inflammation (Planta Med, 1994; 60: 30–3).

In another study, nettle was found to be at least slightly more effective than placebo in improving urinary flow and urination volume (Urologe, 1995; 24: 49–51).

Saw palmetto has also been combined with nettle in one open, prospective, multicentre, observational study of 2080 men. The overwhelming conclusion was that the combination produced improvement across a wide range of symptoms and that it was well tolerated. Only 15 individuals (0.72 per cent) experienced mild adverse effects (Forsch Med, 1995; 113: 37–49).

When *S. serrulata* was combined with nettle (160 mg/120 mg, respectively) and compared with Proscar, the combination proved at least as effective as the conventional drug over the 48 weeks of the trial. Fewer side-effects, such as diminished

ejaculation volume, erectile dysfunction and headache, were reported in the men taking the herbs (Urol Ausgabe A, 1997; 36: 327–33).

Cernilton, a pollen extract, is popular in Sweden for treating prostatitis and BPH. In one six-month, double-blind study of 60 men with BPH, Cernilton produced an improvement in nearly 70 per cent compared with 30 per cent in those taking a placebo. The authors concluded that Cernilton is of benefit in treating mild-to-moderate BPH (Br J Urol, 1990; 66: 398–404).

In another study of 90 men with prostatic infection, patients given Cernilton (one tablet three times daily) showed a favourable response in 78 per cent. Of these, 36 per cent were cured of their symptoms while 42 per cent improved significantly (Br J Urol, 1993; 71: 433–8).

Homoeopathy

It is now widely believed that cancer can have an emotional cause. Because of this, homoeopathy can be a useful adjunct to conventional treatment for the patient with prostate cancer, especially if that patient has already suffered at the hands of injudicious medical treatment.

In one case-report, a 66-year-old man who had already undergone a transurethral resection of the prostate and the removal of his testicles was still experiencing urinary difficulties. Urine was collecting in his scrotum, and radiotherapy had not aided recovery.

He was given an individually prescribed homoeopathic remedy—in this case, *Ignatia amara* 30C—in three doses a day for four days, followed by a placebo for three days. Treatment continued with a single daily dose alternating with a placebo dose over a period of days. As urinary flow began to ease, doses were made more frequently. After nearly a year, the man began passing urine more easily and seemed on the road to recovery (Similie, 1993; 3: 14–5).

Other homoeopathic review reports (Hom Heritage, 1991; 16: 367–73; N Engl J Hom, 1994; 3: 33–44) suggest that conditions such as inflammation, hypertrophy, obstruction and tumours of the prostate can be treated homoeopathically. The remedies of choice are *Pulsatilla* (for bladder pain, a frequent desire to urinate, small flat stools), *Thuja* (frequent painless urination, stitch-like pain in the urethra, stream of urine interrupted five or six times before voiding is complete, some discharge on urinating), *Digitalis purpurea* (retention of urine, sense of fullness even after urinating, giddiness after urinating), *Cyclamen* (frequent desire to urinate, but with scant emission of urine, pain in urethra while urinating), *Causticum* (strong pulsations in the perineum, bladder pain, ineffectual effort to urinate), *Lycopodium* (sensation of pressure in the perineum, stitches in the neck of the bladder) and *Apis mellifica* (incessant desire to pass urine, prickling in the urethra, uncomfortable sensation when passing urine, retention of urine).

A study of 37 patients with prostatic adenomas (half of whom also had chronic prostatitis) showed mixed results. The patients, for whom surgery was not an option because of severe accompanying diseases, were treated for six to nine months with individually chosen remedies, in potencies ranging from 30C to 10M.

Higher dilutions proved to be the most effective. Results showed that there was a subjective improvement in urinary and sexual function, and improved objective measures of urinary function. Testosterone levels rose, but there was no reduction in the size of the prostate. The authors' conclusion was that homoeopathy was “quite effective” in treating benign prostatic adenomas (Br Hom J, 1990; 79: 148–51).

Meditation

A common opinion among physicians is that some prostate symptoms are stress-dependent. Certainly, animal studies have shown that both short- and long-term stress reduce blood flow to the genital area, most specifically the prostate (Urol Res, 1987; 15: 297–301). Soldiers deployed to Haiti for 'peacekeeping' purposes in 1995 were found to be more prone to chronic prostate problems that defied most medical treatment (Milit Med, 1997; 162: 380–3). These kinds of conclusions integrate well with the Chinese philosophy that holds that stagnation lies at the root of many prostate problems.

Given this concept, meditation and other stress-reducing techniques may well have a role to play in the relief of some prostatic conditions, although this area is not well

researched. One study tested the theory that regular practice of mindfulness meditation was associated with increased levels of melatonin. Melatonin may be related to a variety of bodily functions including, they hypothesised, the maintenance of a healthy prostate and the avoidance of cancer. The authors believe that melatonin is psychosensitive as well as photosensitive.

This study involved a small group of women to test its theory, so it does not relate directly to prostate problems. However, the authors concluded that those who meditated regularly showed, through objective urine testing, nearly twice the melatonin levels of non-meditators (Med Hypoth, 1995; 44: 39–46).

Traditional Chinese Medicine

Chinese medicine has many remedies to offer prostate sufferers. One which has come under recent scrutiny is the use of citrus fruit remedies.

Traditionally, Chinese medicine uses the peel of the tangerine (called *qing pi*) to treat breast cancer. According to some reports, modified citrus pectin (MCP)—the result of boiling *qing pi* in water—may have a role to play in the treatment of prostate cancer (Townsend Lett Docs, 1996; Aug/Sept: 82–7).

One clinician, Michael Broffman of the Pine Street Clinic in San Anselmo, California, is conducting ongoing experiments in his clinic. He reports that the levels of PSA (high levels of which are associated with prostate cancer) in 18 men with prostate cancer either remained stable or went down when using MCP.

In addition, metastases (spreading of the cancer) stabilised in six of the men. Since men with prostate cancer are more likely to die from the effects of metastases, this is a potentially important finding.

Citrus pectin, rich in the polysaccharide galactosyl, can be found in nearly all plants. But this particular polysaccharide is most concentrated in oranges, lemons and grapefruits. Unlike the pectin found on supermarket shelves (used for making jam), which is indigestible and unabsorbed by the gastrointestinal tract, citrus pectin is easily digested and readily absorbed into the bloodstream. This appears to be the basis of its healing properties.

MCP has demonstrated its effectiveness in inhibiting a wide variety of cancer cells (J Natl Cancer Inst, 1992; 84: 438–42). Although current theories are based on animal (J Natl Cancer Inst, 1995; 87: 348–53) and in-vitro studies (Biochem Mol Biol Int, 1995; 37: 833–41; Proc Ann Meet Am Assoc Cancer Res, 1995; 36: A377; Glycocon J, 1994; 11: 527–32), they have all consistently shown MCP to have cancer-inhibiting properties. But the remedy still has a way to go before it can be considered a *bona fide* cure for prostate cancer.

Other Chinese remedies that have been tested include mixtures such as Tonifying Kidney Replenishing Vitality (TKRV) and one called *Xiao Jin Dan*. When both these remedies were tested in a study of prostate enlargement, *Xiao Jin Dan* showed a slightly greater therapeutic effect. Both remedies reduced the volume of residual urine and prostate size, but, again, *Xiao Jin Dan* proved rather better in this respect (Chung-Kuo Chung His i Chieh Ho Tsa Chih, 1994; 14: 519–21). (Note, however, that this is a study reported in a Chinese journal. These invariably show a positive response and, therefore, may not be reliable, cautions the Research Council of Complementary Medicine).

Biofeedback

As we become more aware of the prostate and its potential problems, there is also a chance that some conditions will be misidentified. Chronic lower urinary tract symptoms in young men are often misdiagnosed as chronic non-bacterial prostatitis.

In one study of 43 men aged 23–50, researchers analysed the involuntary contraction of the external urinary sphincter during voiding (pseudodyssynergia) and looked at how biofeedback might help to correct the condition. Indeed, biofeedback proved useful in helping to retrain the muscles and relieve voiding difficulties in 83 per cent of these patients (J Urol, 1997; 157: 2234–7).

In another study, biofeedback was used to repair the damage caused by radical prostatectomy. In this case, 27 patients who had been left incontinent by surgery were given weekly sessions to retrain the pelvic floor muscles. Additional reinforcement sessions were given at one, three, six and 12 months. Outcomes were rated

according to subjective symptoms and by digital evaluation of the pelvic floor muscle constriction.

At the end of the evaluation period, 48 per cent of the men had completely recovered continence and 26 per cent were significantly improved (Urol Nurs, 1996; 16: 50–4).

Finally, one study also concluded that biofeedback is an important aid to post-surgical recovery (J Cancer Educ, 1997; 12: 218–23).

CHAPTER 3 Bowel cancer: medicine's Cinderella disease

It's a disease that isn't often in the headlines, but bowel cancer is the second biggest killer cancer in the developed world.

One in 20 of us will get it. And contrary to popular belief, women are as likely to suffer from the disease as men. In fact, colon cancer ranks second only to breast cancer as the most frequent type of cancer in women. It's also the most common cancer in men who do not smoke.

Nevertheless, despite the fact that it's so widespread, colorectal cancer, as it's more properly known, has tended to be a medical Cinderella. While the pharmaceutical companies have been falling over themselves to find "cures" for breast cancer, for example, little attention has been paid to the colon. As a result, conventional medicine's cure rates have been self-confessedly disappointing, particularly in advanced cases of the disease. So it's hardly surprising that patients have increasingly been voting with their feet (and cheque books) by seeking help from alternative practitioners.

Medical solutions

In the US, where the battle lines between alternative and conventional therapies have tended to be most sharply drawn, cancer specialists have done their best to convince patients of the benefits of chemotherapy.

They point to seemingly impressive 'response rates', not bothering to mention that these rarely translate into significant improvement in survival time or quality of life. Indeed, patients sometimes appear to have been pressured into accepting chemotherapy, even when the oncologist has known that it has little or no benefit.

A peculiarly candid admission of this practice came in 1978 from a leading US specialist in colon cancer, Dr Charles Moertel, of the prestigious Mayo Clinic in Baltimore. "Even when administered in most ideal regimens," he wrote, summarising the value of 5-fluorouracil (5-FU), the major chemotherapeutic drug for colon cancer, "5-FU will produce an objective response in only about 15 to 20 per cent of treated patients. These responses are usually only partial and very transient. This minor gain for a small minority of patients is probably more than counterbalanced by the deleterious influence of toxicity for other patients and by the cost and inconvenience experienced by all patients."

However, after acknowledging that there was no medical justification for prescribing chemotherapy, Moertel concluded with a statement that sums up the view of medicine toward conventional cancer therapies, to wit: we know it doesn't work, but it's better than alternative medicine: "This does not imply that [chemotherapy] should be abandoned. Patients with advanced gastrointestinal cancer and their families have a compelling need for a basis of hope. If such hope is not offered, they will quickly seek it from the hands of quacks and charlatans" (N Engl J Med, 1978; 299: 1049–52).

Today, however, conventional medicine is beginning to feel it has something more substantial to crow about in its colon cancer treatments. "Cancer of the colon is a highly treatable and often curable

Watch out for growth hormones

People given growth hormones as children run a far higher risk of developing colorectal cancer and Hodgkin's disease in later life.

Researchers followed 1848 patients who had received human pituitary growth hormone as a child during 1959–1985. They found that the incidence of several types of cancer were far higher than the general population average.

In all, around 100,000 people received growth hormones, and the cancer risk is "of some concern", the study group concluded (Lancet, 2002; 360: 273–7).

disease," boasts a recent US National Cancer Institute report. “Surgery is the primary treatment and results in cure in approximately 50 per cent of patients."

This crude figure is not, of course, quite what it appears, for ‘cure’ in conventional medical parlance means survival for five years. In fact, colon cancers are rarely ‘cured’ because the recurrence rate is very high, hence the need for repeated surgical interventions. Most patients who contract colon cancer and submit to conventional medical treatment will ultimately die of the disease.

There's also growing concern among doctors that some surgical techniques may themselves hasten the advance of the disease. It's now realised that tumours can remain quietly subclinical—that is, not yet showing any symptoms—but can begin to grow after surgery as a result of the immunodepressive effects of the operation (Ann Chir, 1998; 52: 413–20).

There's also evidence that tumour cells may be released into the body during surgery, causing metastases—tumours that develop from cancer cells spread from the original tumour to elsewhere in the body (Ann Surg Oncol, 1998; 5: 390–8). In particular, the ‘keyhole’ surgical technique called ‘laparoscopy’ has been called into question (Dis Colon Rectum, 1998; 41: 971–8).

During a laparoscopy, the endoscope is inserted into a small incision made in the wall of the abdomen. This runs the risk of ‘spilling out’ cancer cells, therby potentially spreading the cancer.

Small wonder that a team of British oncologists, who are traditionally less bullish than their American counterparts, recently observed: “Despite advancement in surgical and anaesthetic techniques, there has been little reduction in mortality and morbidity from [colorectal cancer] over the past 25 years” (Eur J Surg Oncol, 1998; 24: 477–86).

The major problem with colorectal cancer is that, with or without surgery, the disease often spreads to other areas of the body, especially the liver, lungs and brain, where surgery has a poor track record. So, the prevention of metastases by chemotherapy has been the primary goal of oncologists.

Shortly after chemotherapy was invented 50 years ago, the toxic chemical fluorinated pyrimidine was developed into 5-FU. Although 5-FU was increasingly used from 1953 onwards, for the first 35 years, doctors were disappointed to find that, although it could reduce tumour size, it had marginal effects on patient survival. Latterly, however, 5-FU has been combined with other cytotoxic drugs, and these cocktails are now widely prescribed for advanced disease following surgery.

The role of meat

Western diets are high in fats compared to Eastern ones, and there is a 20-fold difference in colorectal-cancer incidence between the East and West. Consequently, fats have been suspected as the main culprit in colorectal cancer.

But the scientific evidence is by no means clear-cut. A large-scale report—’Food, Nutrition and the Prevention of Cancer’, the result of three years of work by 2250 scientists evaluating 4500 research studies—implicated meat itself in colon and rectal cancers (Am J Epidemiol, 1990; 132: 783). However, in a more recent survey of the epidemiological evidence to date, nutritionists at Harvard Medical School could find no link between total fat intake and colon cancer. They reported that “red meat or beef has been related to colon-cancer risk in most studies, whereas dietary fat from sources other than red meat, including dairy, poultry and vegetable oils, does not increase the risk of colon cancer”.

Nevertheless, the Harvard researchers believed that the risk did not appear to be caused by meat’s total fat content.This suggests, they wrote, “that other factors such as heterocyclic amines formed during cooking may be critical” (Am J Clin Nutr, 1997; 66: 1564S–71S).

However, a more recent widescale US study could find no correlation with cooked meats, but it did uncover a weak link between processed meat and an increased risk of colon cancer (Cancer Epidemiol Biomarkers Prev, 1999; 8: 15–24).

Factors increasing colon-cancer risk

In Europe and the US, the average lifetime risk of developing colorectal cancer is one in 20, but the risk can go up or down as a result of many factors:

- **The presence of non-malignant colonic polyps (adenomas)**. As many as 40 per cent of people over 60 are estimated to have gastrointestinal polyps, but the vast majority of these are benign adenomas which never develop into cancer. However, 2 per cent of polyps will become cancerous. The current treatment is to surgically remove all polyps as soon as they are detected. This is believed to substantially reduce the likelihood of later tumour development, but studies show only a 15 per cent reduction in mortality after surgery following a test that measures blood in the faeces ('occult blood test'). To date, there have been no clinical trials to evaluate other screening methods or follow-up surgery (Schweiz Med Wochenschr, 1998; 128: 999–1011).
- **An immediate family history of bowel cancer**. This increases the risk to one in five. The risk is even higher if a close relative has contracted the disease under age 50 (J Cell Biochem, 1996; 25: 131–5). Genetic testing is becoming available, but this will only detect, at most, 20 per cent of those at risk (Digestion, 1998; 59: 481–92).
- **A personal history of breast, endometrial or ovarian cancer** (N Engl J Med, 1991; 325: 37–41).
- **A personal history of adult-onset diabetes mellitus** (type 2) (J Natl Cancer Inst, 1999; 91: 542–7), and use of the diabetes drug troglitazone (Nature Med, 1998; Sept).
- **Being more than 40 per cent overweight, if a man** (Am J Clin Nutr, 1996; 63: 442S–4S), although higher body mass indices are associated with increased risk in both men and women (Int J Obes Relat Metab Disord, 1998; 22: 178–84).
- **Having chronic inflammatory disease of the colon**, such as ulcerative colitis or Crohn's disease.
- **Long-term frequent constipation** (Epidemiology, 1998; 9: 385–91).
- **Heavy consumption of cigarettes (more than 30 a day), beer (every other day) and red meat (twice a day)** (Int J Cancer, 1998; 77: 549–53). Moderate-to-high alcohol intake (more than two drinks a day) increases the incidence of gastrointestinal polyps and doubles the risk of colon cancer in men (J Natl Cancer Inst, 1995; 87: 265–73).
- **Being over the age of 50**.

Extraordinary claims are being made for these drugs, with some doctors claiming a reduction in mortality as high as 33 per cent. But surgeons are less flattering. Some of their own studies have shown little benefit from the new chemical cocktails and even increased mortality after their use (Am Surg, 1996; 62: 546–50).

A group of Canadian doctors recently reviewed the entire issue of chemotherapy from an angle relatively new to medicine: the value of therapy in terms of the patient's quality of life.

Quoting a review of a number of studies showing that chemotherapy increases five-year survival with colorectal cancer by an average of 7 per cent, they boldly stated: "Despite the US National Institutes of Health consensus statement endorsing chemotherapy, many clinicians regard such a seemingly small benefit not worth the expense, inconvenience, discomfort and risk of treatment for their individual patient with colorectal carcinoma" (Ann Chir, 1998; 52: 711–5).

Adding to the uncertainty of chemo-therapy are its side-effects. These are, of course, substantial since the treatment destroys healthy cells as well as cancerous ones. A recent study has shown a litany of side-effects in patients whose immune system is already compromised by the cancer. These include nausea, vomiting, diarrhoea, thrombocytopenia (too few platelets), leukopenia (decrease in number of leukocytes) and neutropenia (decrease in number of neutrophils) (J Clin Oncol, 1998; 16: 3537–41).

The lattermost three are caused by the destruction of white blood cells that normally fight infections, and they can often result in major health problems. If accompanied by fever, death will ensue within hours or even minutes. Indeed,

Does milk prevent colon cancer?

Although laboratory studies of animals and humans have shown that milk reduces the number of carcinogens in the faeces, a recent survey of more than 100,000 people in the Netherlands found that consumption of dairy products was associated with only a minor reduction of cancer risk (Cancer Res, 1994; 54: 3186–90). In an attempt to single out the factors in milk responsible for this small protective effect, a Harvard study of nearly 90,000 American nurses found little or no effect of dietary calcium whereas vitamin D halved the incidence of colorectal cancer (J Natl Cancer Inst, 1996; 88: 1375–82). However, higher levels of calcium in the water supply (more than 42 mg/L) appeared to reduce colon cancer incidence by nearly 50 per cent (Jpn J Cancer Res, 1997; 88: 928–33).

Because dairy products have been linked with other cancers, notably breast cancer, it may be prudent to look to non-dairy sources of calcium and vitamin D as protection against colon cancer.

many cancer patients may have actually been killed by the chemotherapy, and not the disease (J Clin Oncol, 1997; 15: 3320–9).

A new chemotherapy drug called irinotecan (marketed by Upjohn as Camptosar) has recently come into use intended for patients who don't respond to 5-FU. However, studies show that, like 5-FU, Camptosar's benefits are limited, extending survival by about three months compared with no treatment at all—but with all the attendant side-effects (Lancet, 1998; 352: 1413–8). Chemotherapy has also been found to be useless in treating metastases in the liver, the most common result of colon cancer (Arch Med Res, 1998; 29: 319–24).

Gene therapy, despite being heavily trumpeted by the media, is in reality a distant hope, as oncologists will admit among themselves. First-stage trials are currently underway in animals but, already, concerns are being raised over toxicity, side-effects and an inability to target specific tumours (Hematol Oncol Clin North Am, 1998; 12: 595–615).

Screening tests

Because of the poor outlook for colorectal cancer patients, the official medical line is that people should be encouraged to have regular check-ups to detect the cancer before it takes hold, particularly those who are at high risk (see box, page 33). But in practice, there are many problems in carrying out this advice. First, the warning signs of the cancer (iron-deficiency anaemia, rectal bleeding, changes in bowel movements, abdominal pain and weight loss) tend to become noticeable only when the cancer is already well established.

Second, the diagnostic tests themselves are sometimes unreliable. The simplest test—the occult blood test—measures blood in the faeces, but is notoriously prone to false-positive results and, more important, false-negative readings. The more complex barium enema fares little better.

The more reliable tests, such as sigmoidoscopy and colonoscopy (visualisation of different areas of the colon using a fibre-optic tube inserted via the anus) are invasive and uncomfortable, discouraging patients from undergoing routine checks.

Furthermore, experience has also shown that even these examinations sometimes fail to detect precancerous polyps (Ann Roy Coll Surg Engl, 1998; 80: 246–8).

Finally, if all patients at risk were to demand routine check-ups, neither private nor state run systems would be able to cope with the numbers. However, as the US National Cancer Institute admits, "limiting screening or early cancer detection to only high-risk groups would miss the majority of colorectal cancers" (PDQ Statement, June 1999).

Prevention

For many oncologists, the geatest hope for the future of colon cancer lies in prevention. Some see a bright prospect for drugs as preventative agents following the unexpected observation that aspirin, a non-steroidal anti-inflammatory drug (NSAID), reduced the incidence of colorectal cancer. A major clinical trial is currently underway in Europe, testing aspirin dosages as high as 350 mg/day among patients who have undergone surgery to remove benign colorectal polyps.

An epidemiological study has also been completed using other NSAIDs. In 100,000 Americans, aged over 65, who had been taking NSAIDs for conditions such as arthritis, a one-year use of these drugs reduced colon-cancer risk by about 40 per cent and, after two years, by nearly 50 per cent (Arch Intern Med, 1999; 159: 161–6). The authors expect to find similar results with aspirin.

However, on the basis that aspirin offers unwanted side-effects (such as irritation to the stomach lining), drug manufacturers are marketing NSAIDs such as sulindac and indomethacin as primary cancer preventatives. However, one review reported that "their effects are incomplete and may cause severe toxicity" (Nippon Geka Gakkai Zasshi, 1998; 99: 385–90).

The much larger hope for prevention is in the area of diet and lifestyle. In the last 20 years, there has been a major shift in attitude by the medical profession towards the idea that environmental factors and, in particular, diet are among the major causes of all cancers. In fact, bowel cancer was the first cancer to be linked specifically to diet after observations by Dr Denis Burkitt in the 1950s suggested that a high-fibre diet prevented the disease. At first, Burkitt was ridiculed, but the epidemiological evidence concerning the role of diet soon became overwhelming.

Particularly striking was the observation that the Japanese and Chinese have 20 times less colon cancer than Americans, but when they immigrate to the US and begin eating more animal fats and protein, but less fibre, their rates of colon cancer rises to the US national level within a generation.

Thus far, there have been thousands of studies exploring the role of diet in colorectal cancer, leading to widespread agreement that dietary factors are the primary cause, accounting for as much as 90 per cent of its incidence (Eur J Cancer Prev, 1998; 7: S79–80).

Protection against colon cancer

Of all the cancers, colorectal cancer is the one in which the role of diet as a cause of the disease has been the most intensively studied. As a result, there has been a plethora of studies on all aspects of diet. Although not all the findings agree, there is enough evidence to formulate broad dietary strategies that can minimise your risk of developing the disease.

◆ **Eat at least 30 g of fibre a day**. This was the recommendation of a colloquium of experts (American Health Foundation, New York, April 1998). Although the recommendation was mostly for wheat fibre, wheat has been found to present many other problems and may need to be substituted by a gluten-free grain such as rice, millet or buckwheat, or ancient wheat precursors such as kamut or quinoa. One study showed that a daily intake of less than 7.5 g doubles the risk of colon cancer (Int J Cancer, 1989; 44: 1–6).

The generally accepted theory has been that a high-fibre diet increases the bulk of the faeces, thereby accelerating the 'transit time' through the colon and, so, reducing the exposure of the gut wall to possible carcinogens. But high-fibre foods also appear to limit the number of carcinogens present. Human studies comparing oats, wheatbran and cellulose showed a considerable reduction in carcinogens present in the faeces with wheat and cellulose, but not with oats (Cancer Res, 1989; 49: 4629–35). Tests in animals showed that the chemical constituents of wheatgerm have a protective effect against polyps and tumours, but that the largest effect came from the crude fibre itself (Mutat Res, 1996; 350: 185–97).

Such findings have been confirmed by epidemiological studies showing that diets high in cereal fibre reduce the risk of colon cancer, while refined grains increase the risk (Cancer Causes Control, 1997; 8: 575–90).

◆ **Increase your consumption of vegetables to at least five portions a day**. Higher intakes of vegetables, but not fruit, also appear to have a protective effect against colon cancer, according to a long-term study using data from the Food and Agriculture Organization of the United Nations, especially in later life (Eur J Cancer Prev, 1998; 7: S11–S7).

◆ **Limit your intake of red meat to one or two servings a week**. Although the data concerning red meat are confusing, it may be prudent to keep consumption to a minimum that will support health.

◆ **Increase your consumption of fish and fish oils, and limit corn oils**. Studies in South Africa have shown that coastal populations where fish is a staple food

have significantly less colorectal cancer (S Afr Med J, 1997; 87: 152–8).

In the laboratory, studies with rats predisposed to cancer have demonstrated that high amounts of fish oil, which is naturally rich in omega-3 polyunsaturated fatty acids, significantly reduced the number of colon tumours. In contrast, tumours proliferated in rats fed a diet high in corn oil (Carcinogenesis, 1998; 19: 985–9).

Studies with human volunteers have reinforced the fish *versus* corn oil story with the findings that corn oil results in carcinogens in the faeces, while fish oil does not (Nutr Cancer, 1996; 25: 71–8).

◆ **Supplement with vitamin E**. In one US survey, general multivitamin use was associated with halving of the colon-cancer risk; vitamin E was particularly protective (Cancer Epidemiol Biomarkers Prev, 1997; 6: 769–74). This finding replicates earlier work showing that people taking high levels of vitamin E reduced their risk of colon cancer threefold (Cancer Res, 1993; 53: 4230–7).

◆ **Supplement your diet with at least 400 mcg of folic acid**. Folic acid reduces the risk of colon cancer developing after inflammatory bowel diseases (Ital J Gastroenterol Hepatol, 1998; 30: 421–5). It also appears to affect the progress of the cancer itself. In one long-term study, more than 400 mcg of dietary folate daily nearly halved the incidence of this type of cancer.

Supplemental folate also has a progressively protective effect, rising from a 20 per cent reduction of risk after 10 years to a 300 per cent reduction after a 15-year intake (Ann Intern Med, 1998; 129: 517–24). However, this benefit may have been associated with general multivitamin intake.

In this study, folic acid also seemed to protect against the consequences of an excessive alcohol intake (J Natl Cancer Inst, 1995; 87: 265–73).

◆ **Selenium supplements may also be beneficial**. Recent laboratory work with rats prone to cancer shows that selenium may both inhibit the initiation of colon tumours and hinder them once they are established (J Natl Cancer Inst, 1997; 89: 506–12).

◆ **Take at least 1 g/day of vitamin C**. Numerous 25-year-old studies inspired by the late Dr Linus Pauling have shown that high doses of vitamin C greatly reduce the amount of mutation- and cancer-causing substances in the bowel contents (Cancer, 1981; 47: 1121–5).

◆ **Launch a rigorous programme of exercise, three to four times per week**. In one study comparing three different groups of people, those who followed a typically 'Western' lifestyle (low-fibre, high-calorie, high-sugar and high-cholesterol intake with a higher body mass index) had four times the rate of colon cancer, while the moderately health conscious (preferring low fats, white meat and wholegrains) had a marginally reduced risk. The individuals least at risk were those with the smallest body size and the most 'prudent' lifestyles, involving vigorous exercise and diets rich in fibre and folate—this group's colon-cancer risk was halved (Am J Epidemiol, 1998; 148: 4–16).

Alternative treatments for colon cancer

◆ **Vitamin C**. Dr Linus Pauling, the late celebrated champion of vitamin C, believed that it not only protected against cancer, but could also be used to cure the disease—or at least substantially prolong life.

In a large-scale trial together with Ewan Cameron, a Scottish doctor, Pauling found that 10 g/day of vitamin C reduced death rates across a wide variety of advanced cancers, including 'untreatable' colorectal cancer. In another study, they reported that all the untreated patients had died within 200 days, whereas 55 per cent of those taking vitamin C were still alive, some after a full five years (Cancer Res, 1979; 39: 663–81).

However, a later study by Dr Charles Moertel at the Mayo Clinic in Maryland failed to replicate Pauling's findings—although Pauling accused Moertel of scientific fraud because the vitamin C treatment had been prematurely stopped.

◆ **Gerson therapy**. The Gerson technique is one of the oldest and most popular alternative nutritional approaches to cancer treatment. The intention is to regulate sodium–potassium balance by water management, and to provide high doses of micronutrients by frequent consumption of juices from fresh organic fruits and

vegetables. The Gerson diet is also very low in fat and protein. In addition, patients are prescribed frequent enemas containing coffee.

Although there have been no clinical trials of Gerson therapy in colorectal cancer, anecdotal reports suggest that even patients with advanced colorectal cancer may survive longer than would be expected with any conventional treatment, with improvements in general health and wellbeing. Some cases have resulted in almost total tumour regression.

The treatment can cause flu-like symptoms, intestinal cramps, diarrhoea and vomiting. Coffee enemas may produce colitis or severe inflammation of the colon; serious infections and deaths due to electrolyte imbalance as a result of coffee enemas have been reported.

- **Mushroom**. Since 1965, when the mushroom *Coriolus versicolor* was first reported to relieve stomach cancer, research has confirmed that the mushroom has antimicrobial, antiviral and antitumour properties. A polysaccharide called Krestin (PSK) in the mushroom's thread-like extensions is the active ingredient. PSK is currently used as a cancer treatment in Japan, mainly in conjunction with surgery, chemotherapy and/or radiation therapy.

  Research has shown that healthy people given 1 g/day experience a significant cellular immune response within 12 hours. Cancer patients show marked improvement in immune function with 3 g/day of PSK.

  Although side-effects with *C. versicolor* are uncommon, they can include nausea, vomiting, diarrhoea, skin pigmentation, anorexia, anaemia, liver dysfunction, leukopenia and thrombocytopenia.

  In a randomised placebo-controlled trial of PSK and more than 100 patients after surgery for colorectal cancer, the number in remission and surviving at 10 years was significantly higher with PSK than with the placebo (Cancer Immunol Immunother, 1990; 31: 261–8). In another trial of more than 400 patients, again after gut surgery, the overall survival in the PSK group were better than those given chemotherapy (Dis Colon Rectum, 1992; 35: 123–30).

  A further study found that immune-system natural-killer (NK) cells were activated by PSK and increased in number while the number of helper T cells increased proportionately (Biotherapy, 1992; 4: 117–28).

- **Essiac**. In 1922, René Caisse, head nurse at a hospital in Ontario, Canada, began treating cancer patients with a herbal formula based on a remedy used by a medicine man of the Ojibway tribe. The mixture comprises four main ingredients—burdock root (*Arctium lappa*), slippery elm bark (*Ulmus rubra*), sheep's sorrel (*Rumex acetosella*) and Turkish rhubarb root (*Rheum palmatum*)—together with smaller quantities of blessed thistle (*Cnicus benedictus*), red clover (*Trifolium pratense*), watercress and kelp. Nurse Caisse called it 'Essiac'—her own name spelled backwards.

  No formal studies have been documented. Nevertheless, based on testimonials provided to the Canadian Royal Cancer Commission in 1938, of eight patients with confirmed diagnoses of cancer, the positive outcomes in two of them were attributed to Essiac. In 1959, experiments at the prestigious Memorial Sloan-Kettering Hospital in New York found that Essiac produced "definite and pronounced changes" in cancer-prone animals.

  In the laboratory, burdock has been found to decrease the cancer-causing properties of certain chemicals (Mutat Res, 1984; 129: 25–31).

- **Revici therapy**. In the 1920s, Dr Emanuel Revici developed a system of chemotherapy based on lipids (fats) combined with various elements, such as selenium and omega-3 fatty acids derived from fish oils. These treatments have been provided by the Institute of Applied Biology in New York since 1947.

  Although there have been no published assessments of his clinical records, one unpublished manuscript reported a 48 per cent positive response in 186 colon cancer patients (Ravich R. *Evaluation of 1,047 patients with advanced malignancies treated from 1940–1955*).

- **Mistletoe**. Mistletoe (*Viscum album*), a tree parasite, has been revived in cancer therapy particularly in Germany. One test-tube study demonstrated significant effects of mistletoe extracts on blood taken from cancer patients. Different extracts were found to stimulate the production of cytokines and tumour necrosis factor, suggesting powerful immune-enhancing properties (Arzneim Forsch, 1998; 48: 1185–9).
- **MTH**. MTH is an immunotherapy agent developed by Dr Laszlo K. Csatary, a Hungarian physician who believed that viruses could be harnessed in the war against cancer. By chance, he came across a chicken farmer who had advanced stomach cancer which had completely regressed after his flock suffered an outbreak of Newcastle disease (a nearly always fatal viral disease of chickens characterised by lesions in the gastrointestinal tract). Dr Csatary developed a live strain of the Newcastle disease virus (NDV) and began using it as a vaccine—which he called MTH-68—in cancer patients.

  There have been two clinical trials of the effects of MTH on colorectal cancer. The first involved patients whose cancer had spread to the liver. After liver surgery, 23 patients received a modified MTH vaccine five times at 14-day intervals, followed by a booster shot three months later.

  At the follow-up at least 18 months later, 39 per cent of the MTH group had no tumour recurrence compared with only 13 per cent of the matched controls (Ann NY Acad Sci, 1993; 690: 364–6). A more recent trial found that two years after MTH treatment, only 3 per cent of colon-cancer patients had died compared with 23 per cent of a matched untreated group (Proc Ann Meet Am Assoc Cancer Res, 1995; 36: A1336).

  MTH side-effects include mild, transient flu-like symptoms and delayed hypersensitivity skin reactions.
- **Heat treatment**. A novel technique using the principle of heating tumours is being developed at the Lomardi Cancer Center in Washington. Cancer cells have long been known to be susceptible to heat.

  The antihypertensive calcium-antagonist drug verapamil is inserted into the colon, which has the effect of heating up the surrounding tissue. In animal experiments using human cancer-cell grafts, 50 per cent of the tumours disappeared within 12 hours of the heat treatment (Anticancer Res, 1997; 17: 2213–6).
- **Immune augmentation therapy**. IAT uses cytokines (cell secretions that, among other things, can amplify or reduce inflammatory reactions) as a cancer therapy. The patient's blood is checked daily for any missing cytokines; if any are absent, these are harvested from blood donated by healthy volunteers and infused into the patient.

  No clinical trials have been done using IAT, but numerous anecdotal case reports suggest considerably enhanced survival duration in advanced cases of colorectal cancer.

  The therapy is only available at a clinic in the Bahamas run by Dr John Clement. At least 5500 patients so far have been treated there. Side-effects are nil.

CHAPTER 4 Childhood cancer: an environmental wake-up call

Cancer is the second-biggest killer of children, largely because they are even more susceptible than adults to the growing number of poisons we come across throughout our lives.

Childhood cancer is on the rise, and medical science says that the reason remains a mystery.

Cancer is a multifactoral disease. But, while scientists continue to focus their research on the genetic links to childhood cancer, important environmental triggers—vaccines, pesticides, food additives and electromagnetic radiation—are all but ignored.

Experts continue to decry that cancer is rare in children, yet statistics show that, after accidents, childhood cancer is the second-biggest killer in US children (Am Fam Physician, 2000; 61: 2144–54). Government figures suggest the same is true in the UK (*National Statistics, Mortality Statistics: Childhood, Infant and Perinatal*, London: HMSO, 1999).

Just like adults, children can be prone to cancer at any site in the body. Nevertheless, two sites—bone and brain—are now particularly common. Figures show that acute lymphoblastic leukaemia (ALL) rates have risen 10 per cent in the last 15 years, while the incidence of tumours of the central nervous system are up more than 30 per cent.

Increased vulnerability

Children are many times more vulnerable to the effects of toxic insults than adults, and their response to toxic exposures can also differ markedly. A good example is the paradoxical response to phenobarbital and Ritalin seen in children *versus* adults. Phenobarbital, a sedative in adults, produces hyperactivity in children. On the other hand, Ritalin, used as an antihyperactive drug in children, has the opposite effect in adults.

There are many reasons for this paradoxical response (see box, page 40). Differences in the developing infant and child affect the absorption, dose, distribution, metabolism, storage and excretion of chemicals or drugs in the body and, therefore, their toxicity (see R.J. Roberts' overview in *Similarities and Differences Between Children and Adults*, Guzelian PS *et al.*, eds, Washington, DC: ILSI Press, 1992; 11–5).

The efficiency and availability of metabolic enzymes varies with age (Environ Health Perspect, 1995; 103 [Suppl 6]: 7–12), which can result in differences in sensitivity to the toxic effects of both drugs and environmental toxins.

But perhaps the most influential characteristic of infants and children is that they are still growing and developing. During childhood, different systems and organs develop at different rates and at different times. Growing tissue may be more sensitive to toxic insults than other tissue. Studies of exposure to cigarette smoke have shown that the risk of dying of breast cancer is greater for those who started smoking before age 16 than for those who started after age 20 (Am J Epidemiol, 1994; 139: 1001–7).

Studies of the effects of radiation also suggest an increased susceptibility in those exposed during childhood. Among survivors of the atomic bomb in Hiroshima and Nagasaki, Japan, susceptibility to leukaemia was greater among those who were under 20 when exposed compared with those who were older. Moreover, the type of leukaemia varied according to the age at exposure (Environ Health Perspect, 1995; 103 [Suppl 6]: 41–4).

Pesticides kill things

In homes, schools and gardens, in their food and water, and in the air they breathe, children are bombarded by pesticides. Despite the objections of major chemical companies, the link between pesticide exposure and childhood cancer is firmly established (Environ Health Perspect, 1997; 105: 1068–77; Am J Epidemiol, 2000; 151: 639–46; Cancer, 2000; 89: 2315–21; Eur J Cancer, 1996; 32A: 1943–8; Environ Res, 1980; 23: 257–63).

Case reports and case-control studies have linked pesticides to a wide range of

Why children are at higher risk

Children differ from adults in a number of ways, and these can lead to increased susceptibility to toxins.

- Many parts of their bodies—for example, the brain, bones and reproductive organs—are still developing:
  - During this stage, they may be more susceptible to the alterations caused by toxins
  - Their bodies have a less developed ability to break down toxins
  - They crawl around on the floor near dust and other potentially toxic particles
  - They are more likely to put things in their mouths and eat things that they shouldn't
  - They eat, drink and breathe more for their weight than do adults. This means that they take in more toxins per kilo than adults. The air intake of a resting infant, for instance, is twice that of an adult under the same conditions
  - Children's bodies may also have less capacity to repair damage. In addition, the developing fetus is extremely sensitive to toxic chemicals. This is because the development of the body is completely dependent on the complex interactions of signalling chemicals (hormones). Disruption of these signals can permanently damage the body's development.

malignancies, including leukaemia, non-Hodgkin's lymphoma, neuroblastoma and Wilms' tumour, as well as cancers of the brain, colorectum and testes (Environ Health Perspect, 1998; 106 [Suppl 3]: 893–908).

Research has shown that pesticide use in the home—to get rid of termites, flies and wasps, no-pest strips, flea collars, and garden insecticides and herbicides—has resulted in a significant increase in childhood brain cancer (Arch Environ Contam Toxicol, 1993; 24: 87–92).

In one study, the risk of childhood leukaemia increased nearly four times when pesticides were used indoors at least once a week, and more than six times when garden pesticides were used at least once a month (J Natl Cancer Inst, 1987; 79: 39–46).

Another study suggested that children living in homes with pest strips (imbedded with insecticides) had one-and-a-half to three times the risk of developing leukaemia than those living in homes without strips. Even worse, children under age 14 had four times the normal risk of connective tissue tumours if their gardens are treated with pesticides or herbicides (Am J Public Health, 1995; 85: 249–52).

Shots in the dark

The efficacy and necessity of childhood vaccinations continues to be one of the more emotive subjects in medicine. While officials continue to debate the connection between behavioural and learning disorders and vaccination, other potentially deadly effects of vaccination have been shoved into the background. Indeed, how many parents have ever considered whether childhood vaccinations might also lead to childhood cancer?

Little research has been carried out in this area. One study concluded there is no risk. However, the study involved less then 900 children, and not all received the same number of vaccinations. Other flaws in the study design suggest that its results are not conclusive (Br J Cancer, 1999; 81: 175–8).

No study has looked at children who have had their full complement of vaccinations and developed cancer, and compared them with children who have had few or no jabs. In addition, none of the childhood vaccines currently in use has ever been tested for carcinogenic potential (*Physicians' Desk Reference*, 51st edn, Medical Economics, 1997).

The truth is, we don't know whether vaccines can cause cancer. But there are several sound reasons why they might. The manufacture of vaccines is a filthy process. The viruses are gathered from the excrement and bodily fluids of infected individuals. Once gathered, it is grown in a toxic medium, as disease-causing organisms cannot live in a 'healthy' environment (just as they cannot proliferate in a healthy body).

These are further mixed with other toxins, including formaldehyde (a carcino-

gen) to inactivate them, aluminium and the mercury derivative thimerosal (both carcinogens), phenol (yet another carcinogen) and antibiotics.

In addition, viruses themselves may cause cancer, and the process by which viruses are 'inactivated' for use in vaccines is not infallible. A well-known example of this is the simian virus 40 (SV40) that contaminated the early Salk polio vaccine.

SV40 was a carcinogenic virus growing on the monkey kidneys used to culture poliovirus. It was discovered only after hundreds of thousands of individuals had been injected with it. Not only was this virus responsible for cancer in the vaccine recipients, but it was associated with DNA damage passed on through sexual contact as well as to their unborn children. Evidence of SV40 is still being found in brain tumours today (J Natl Cancer Inst, 1995; 87: 1331; Brain Pathol, 1999; 9: 33–42).

The unhealthy vitamin

Concern has also been raised as to whether injections of vitamin K given immediately after birth increase the risk of childhood cancer. In 1990, a positive association was found between the vitamin K jab and childhood leukaemia. The study involved 597 children in England and Wales born between 1968 and 1985, and diagnosed with cancer between 1969 and 1986, and a matching group of children who didn't have cancer.

The association between overall cancer incidence and intramuscular vitamin K was small. However, there was a strong association with the incidence of leukaemia. The authors concluded that ". . . the risk, if any, attributable to the use of vitamin K cannot be large, but the possibility that there is some risk cannot be excluded" (Br J Cancer, 1990; 62: 304–8).

Eight years and a great deal of debate later, the *British Medical Journal* devoted an entire issue to vitamin K injections and its link with cancer. An editorial likened the subject to a 'Gordian knot' that still awaits untying (BMJ, 1998; 316: 161–2). One of the studies found no association (BMJ, 1998; 316: 184–9), but others suggested otherwise. "The possibility that there is some risk cannot be excluded," concluded one (BMJ, 1998; 316: 178–84).

A third study looking at British children who developed cancer before age 15 found no association between intramuscular vitamin K and all childhood cancers and leukaemia. But once again, there was a raised risk for leukaemia developing one to six years after birth.

They live to fight another cancer

One in every 250 people will be a survivor of childhood cancer. However, what kind of future can they look forward to? Studies show that childhood cancer treatment may well get rid of the original cancer, but such survivors are also more prone to cancer in other sites as adults.

One team of researchers has calculated that as many as one-third of female childhood cancer survivors develop breast cancer by the time they are 40 (N Engl J Med, 1996; 334: 745–51). There is also evidence that children treated for one type of leukaemia go on to develop another form of the disease as adults (N Engl J Med, 1991; 325: 1682–7).

Most recently, a follow-up study of 13,581 children and adolescents from 25 hospitals in the US and Canada who had survived for at least five years after treatment for leukaemia and other cancers made startling reading. Breast cancer was 16 times more common than expected and often occurred when women reached their late 20s and 30s. Bone cancer was 19 times more common than usual and thyroid cancer 11 times more common among the cancer survivors. The highest extra cancer risk was seen in children who had been treated for Hodgkin's disease. They had an almost 8 per cent chance of new cancer during 20 years of follow-up. The researchers believe chemotherapy and radiation were largely to blame (J Natl Cancer Inst, 2001; 93: 618–29).

Chemotherapy also causes late heart problems, particularly in women (N Engl J Med, 1995; 332: 1738–43). In one study, nearly a quarter of patients treated with anthracyclines developed cardiac abnormalities years later (JAMA, 1991; 266: 1672–7). Late liver toxicity was seen in long-term survivors of Hodgkin's (Oncology, 1996; 53: 73–8) as well as lung cancer.

Suck it and see

Phthalates are a group of chemicals used in plastics, glues and inks. Research has indicated the possible negative impact of phthalate exposure on children's health, and links with childhood cancer have not been ruled out.

Many teethers and soft toys contain phthalates, and there is evidence that these can leach out of these toys and be ingested by children. The European Commission's Committee on Toxicity, Ecotoxicity and the Environment has concluded that there are "reasons for concern" over the most common phthalates used in polyvinyl chloride (PVC) toys (ENDS Report 281, June 1998: 49).

Yet, despite being banned in several countries throughout Europe, phthalate-containing toys and teethers have not been banned in the European Union because, say EU officials, there is currently no way to tell how much of these plasticisers is leaching out of the toys.

Unfortunately, phthalates are not confined to teethers and chewy toys. Tests carried out by the UK Ministry of Agriculture, Fisheries and Food (MAFF) found phthalates in baby milk formula. MAFF's report also noted that a 1993 UK survey of phthalate levels in fatty foods found them to be present in every sample, including meat, fish, eggs, milk and milk products (MAFF, *Food Surveillance Information Sheet, Number 82: Phthalates in Food*, 1996).

The phthalate diethylhexylphthalate (DEHP) may no longer be used in toys, but it is a constituent of many PVC building materials, such as PVC flooring. Researchers have found that DEHP and other phthalates are present in household dust, where it can be inhaled by both children and adults. There is evidence to suggest that the development of lung problems, including asthma, in the first two years of life is linked to exposure to plastic interior surfaces (Environ Health Perspect, 1997; 105: 972–8).

The researchers concluded, "It is not possible, on the basis of currently published evidence, to refute the suggestion that neonatal intramuscular vitamin K administration increases the risk of early childhood leukaemia" (BMJ, 1998; 316: 189–93). The most recent review of the vitamin K–cancer link arrived at much the same conclusion (Br J Cancer, 2002; 86: 63–9).

Are kids electric?

Evidence is also accumulating to show that living near even relatively low levels of electromagnetic field (EMF) radiation from mains electricity or powerlines can significantly raise a child's chances of developing leukaemia. In 1979, the first major study linking such EMFs to childhood cancer was published (Am J Epidemiol, 1979; 109: 273–84).

Other studies followed, including a Swedish study of some half a million people showing that children exposed to varying levels of household EMFs had up to a fourfold greater risk of developing leukaemia (Am J Epidemiol, 1993; 138: 467–81). Others have also confirmed the EMF-cancer link (Eur J Cancer, 1995; 31A: 2035–9; Lancet, 1993; 342: 1295–6; Am J Epidemiol, 1991; 134: 923–7; Am J Epidemiol, 1988; 128: 21–38).

Most recently, however, back-to-back UK studies on electrical powerlines and cancer reached mixed conclusions. One, by Professor Denis Henshaw of Bristol University's Human Radiation Effects Group, took 2000 field measurements and found that the toxic effects of EMFs could extend up to more than 100 yards (91 metres) on either side of powerlines.

He also suggested how EMFs could cause cancer. According to Henshaw, living near powerlines with radiation levels dozens of times the legal limit may indirectly cause cancer by increasing the concentration of carcinogenic airborne particles that are produced naturally in the soil and by local traffic pollution (Int J Radiat Biol, 1999; 75: 1505–21). This conclusion supports earlier research showing potentially toxic interactions between alternating EMFs surrounding powerlines and radioactive breakdown products of naturally occurring radon gas (Int J Radiat Biol, 1996; 69: 25–38).

However, the UK Childhood Cancer Study—an 18-year study of EMFs and 2226 cancer-stricken children matched with healthy children—did not support a

Childhood cancer screening does more harm than good

Screening for neuroblastoma, a common childhood cancer, does more harm than good, suggest two new studies.

Screening children who are under a year old detects early tumours that would probably resolve without treatment. One study found that three children died from complications after treatment following early detection. Another study, using the screening records of 1.5 million children in Germany, found no differences in the number of deaths between screened and unscreened children. More early cases of cancer were detected in the screened group, who received un-necessary treatment that in some cases was harmful. The high rate of overdiagnosis suggests that these tumours are likely to spontaneously regress after the first nine months.

Similar findings were made in a Canadian study that looked at the progress of 450,000 children in Quebec who were screened between the ages of three weeks and six months. Again, the death rate in Quebec was no different from that in the rest of Canada, where children were not screened for the cancer (N Engl J Med, 2002; 346: 1041–6, 1047–53).

link between EMF exposure and childhood cancer (Lancet, 1999; 354: 1925–31).

Nevertheless, the authors noted that the study design may have been flawed (an admission omitted from most of the media reporting). A non-relevant criterion was used, and only 2.3 per cent of the studied children fell into the higher-exposure category. Exposure was also not comparable to studies in other countries, such as North America, where the voltage is different and rates of high exposure are greater. Another study in New Zealand (Lancet, 1999; 354: 1967–8) also proved inconclusive, but had the same design flaws as the UKCCS.

Overall, we know pitifully little about the role of environmental carcinogens in childhood cancer (Environ Health Perspect, 1998; 106 [Suppl 3]: 875–80). When studies have been done, scientists have tended to hedge their bets by concluding that the effects on the general population are likely to be small. But add up all these small effects and there may be a strong case for an environmental cause for some childhood cancers.

Also, whereas scientists now believe that many adult cancers are due to lifestyle factors such as smoking, diet, occupation, and exposure to radiation and toxic chemicals, medical science has consistently failed to give the same consideration to childhood cancers.

The average age for a diagnosis of childhood cancer is six years, yet children often have more advanced cancer at diagnosis. Only about 10 per cent of adults have spreading disease when first diagnosed compared with 80 per cent in children.

Doctors say that such late diagnosis is because the symptoms of cancer mimic so many other childhood illnesses (Am Fam Physician, 2000; 61: 2144–54). However, another viewpoint is that many medics, believing that childhood cancer is rare, may consider exploratory tests for youngsters unnecessary.

In the US, Alexander Horwin died of the most common form of brain cancer—medulloblastoma—after his parents were told repeatedly by their paediatrician that he had a 'virus'. His parents have since made a herculean effort to raise awareness of the potential links between childhood vaccinations and cancer (log on to www.ouralexander for details).

Perhaps our children's increased vulnerability in the face of environmental risk factors combined with the alarming increase in the incidence of childhood cancer is our wake-up call, urging us to take the unique biology of children and the damaging potential of these environmental insults even more seriously.

Where cancer is concerned, the best form of cure is prevention, and it behooves us to do whatever we can to ensure that our children have the resources to remain healthy in a toxic world.

Protecting children from cancer

Protecting your children from environmental toxins requires efforts on several fronts and may even need to begin before conception.

Consider the following suggestions to help keep your child healthy:

◆ **Protection begins before birth**. There is evidence that parents exposed to toxic chemicals, such as pesticides, as well as radiation have a greater risk of producing a child who develops cancer. Before conceiving, it is worthwhile for parents to consider their own environments and health. Fathers who smoke, for example, may contribute to the development of cancer in their children (J Natl Cancer Inst, 1997; 89: 238–44). Consulting groups such as Foresight (01483 427 839) may be helpful.

◆ **Mothers should avoid X-rays**. X-rays during pregnancy are usually of little value and have been associated with a 50 per cent increase in childhood leukaemia (J Natl Cancer Inst, 1962; 28: 1173–91).

◆ **Breastfeed for as long as possible**. In spite of the toxic chemicals in breastmilk, the general conclusion of scientists and paediatricians is that the benefits of breastfeeding, such as a possible protective effect against childhood cancer (Int J Epidemiol, 1995; 24: 27–32; Br J Cancer, 2001; 85: 1685–94), far outweigh any risks.

◆ **Opt for oral vitamin K**. Oral doses of vitamin K are not associated with cancer. In addition, colostrum and hind milk contain significant amounts of vitamin K, another good reason to breastfeed.

◆ **Use good-quality supplements**. Once your child is on solid food, supplement with important minerals such as vitamins C and E, potassium, selenium and zinc. In addition, make sure your child receives adequate doses of essential fatty acids. Hemp and sunflowerseed oils are good sources of omega-3 and omega-6 fatty acids, respectively.

◆ **Consider alternatives to vaccination**. In healthy children, mild childhood diseases are rarely dangerous. If your child is at particular risk and you wish to strengthen his resistance to disease, try homoeopathy. Evidence from 50 years ago suggests that homoeopathic prevention can be effective. If you have decided on conventional vaccination, it may be better to wait until your child is nine months or older before vaccinating. Prepare your child to receive vaccines with a course of *Thuja* or *Bacillinum*, or vitamin C.

◆ **What are they putting in their mouths?** The more organic fruits, vegetables and wholegrains your child consumes, the less the risk of ingesting harmful pesticides.

However, many foods aimed at children contain other known carcinogens, such as the nitrites in cured meats (Cancer Causes Control, 1994; 5: 141–8) and the food colouring used in so many drinks and sweets. Cutting out convenience foods or being more selective about what you serve will have a substantial effect on your child's health by removing potential carcinogens as well as boosting overall health to a level that may help your child fight off the effects of toxins.

◆ **Avoid artificial sweeteners**. The foods children eat are implicated in increased cancer rates. In one study, researchers found what they believed was a "promising" connection between the artificial sweetener aspartame and increased rates of brain cancer (J Neuropathol Exp Neurol, 1996; 55: 1115–23).

◆ **Keep kids safe from electrical gadgets**. Less radiation exposure means lower cancer risk. Apart from rethinking how many gadgets you have at home and where they are placed, think seriously about your child's bedroom environment. Babies do not need electric light and musical devices to soothe them. Children don't need clock-radios or TVs in their rooms. Keeping your child's room as free from domestic electrical appliances as possible means that the eight or more hours they spend sleeping each day can heal rather than harm.

◆ **Minimise exposure to heavy metals**. In particular, lead and mercury are potent neurotoxins. Left to accumulate in the body, they can cause the kind of chronic illness that may predispose to certain cancers. To minimise exposure from the water supply, install a reverse-osmosis water filter in your home. If your child needs dental filings, make sure they are composite rather than amalgam. Use lead-free paint and replace all old lead water pipes.

◆ **Stay informed**. Many environmental groups produce excellent reports on environment and child health. Friends of the Earth's *Poisoning our Children: The Dangers of Exposure to Untested and Toxic Chemicals* is a good overview (www.foe.co.uk ; tel: 020 7490 1555). In the US, the Natural Resources Defence Council produces many useful publications, including *Our Children at Risk*, available online at www.nrdc.org.

CHAPTER 5 Non-Hodgkin's lymphoma: a body's cry for help

The disease that killed Jacqueline Onassis, one of the fastest rising forms of cancer, represents an immune system slowly being poisoned by too many chemicals, too much fat, too many allergies and too little water.

It took the death of a 20th century icon, Jacqueline Kennedy Onassis, to bring non-Hodgkin's lymphoma (NHL) to the world's attention. With her passing, we began to realise that this once-rare form of cancer was not so rare anymore. Over the last 20 years, the incidence of NHL has increased by approximately 73 per cent. A large proportion of that increase occurred between 1973 and 1987, when the incidence of NHL rose by a massive 51 per cent (Science, 1991; 254: 1131–8).

Scientists admit that they are baffled by the steady rise of this immune system cancer, which now accounts for around 3 per cent of all cancers. It is unlikely that improved diagnostic procedures are the sole explanation since there are few accurate screening tests for NHL. Instead, it is immunosuppression in its many modern forms which appears to provide the key.

To some extent, the rise in NHL has mirrored the rise in the increasing use of immunosuppressive drugs for organ transplantation, rheumatoid arthritis, HIV/AIDS, systemic lupus erythematosus and some cancer therapies. There is also an association with the Epstein–Barr virus and hepatitis C virus as well as immune system assaults such as blood transfusions.

The term 'non-Hodgkin's lymphoma' is something of a catch-all phrase as it covers several different cancers of the lymphatic system, that complex network of cells and channels that runs throughout the body, providing a crucial foundation for the immune system.

Unlike the link between smoking and lung cancer, the causes of NHL are not straightforward. It is probably the result of a complex series of interactions within the body in response to poisons, both within and without.

The good news is that the course of NHL is different from other cancers and is not unalterable. Certainly, it is a disease that can kill quickly, but it can also linger for many years without much impact on a person's life. The experience of holistic practitioners is that NHL can regress and even disappear when immunosuppressive drugs are withdrawn and other challenges to the immune system taken away.

Chemical crisis

To understand the importance of the link between toxins and cancer of the immune system, it is helpful to know that the role of the lymphatic system is primarily to clear debris and help defend the body.

The lymphatics are thin vessels which branch out like veins and carry lymph—a watery colourless fluid—to all parts of the body. Clusters of bean-shaped organs called 'lymph nodes' are found along this network under the arms, and in the pelvis, neck and abdomen. The lymph nodes make infection-fighting lymphocytes and antibodies; they also act like a filter and drain, inspecting the lymphatic fluid for foreign matter.

Because lymphatic tissue lies throughout the body, NHL can start (and spread) to almost anywhere, including the liver, bone marrow and spleen.

We are only just beginning to appreciate the impact that exposure to noxious chemicals has on the immune system. In a review of environmental factors associated with NHL, 54 statistically significant associations between NHL and solvent exposure were reported (Cad Saude Publica, 1998; 14 Suppl 3: 41–66).

It has been demonstrated that the incidence of NHL rises among people with extreme exposure to poisons, such as the accidental release of toxic chemicals, or in regions with unusually high concentrations of certain industrial activities. In 1976, an accidental release of large quantities of dioxins in Seveso, Italy, resulted in the exposure of more than 5000 local residents. Follow-up studies demonstrated

Dehydration and cancer

The experience of US charity People Against Cancer suggests that most cancer patients suffer from chronic low-level dehydration. This is a particularly important consideration in cases of non-Hodgkin's lymphoma (NHL) since the lymphatic system balances all the body's fluids.

Just drinking more water, however, may not be the answer. According to PAC founder Frank Wiewel, "Drinking tap water contaminated with fluoride, chloride, various pesticides and the byproducts of industry may actually increase your cancer." So, PAC believes strongly not only in purifying water, but also in optimising its pH (acid to alkaline balance). "In treating NHL, it is often simply enough to introduce a pure source of alkaline fluids," says Wiewel.

One way to do this is to buy alkaline bottled water (high in minerals). However, the mineral particles are often not well absorbed by the body. Another way is to increase your intake of natural vegetable and fruit juices, which contain high levels of highly alkaline water in an easily assimilated form.

PAC also recommends investing in an alkaline water ioniser, which electrically splits the water molecule to make alkaline (containing sodium, potassium, magnesium and calcium) and acid (containing chlorine, lead, suphur and phosphorus) water. (PAC recommends the Ioniser Plus system, although other brands are effective.)

elevated rates of NHL and soft-tissue sarcomas among exposed residents (Epidemiology, 1993; 4: 398–406).

Pesticides in everyday use, such as phenoxyacetic acid herbicides used extensively to control terrestrial broad-leaf plants, are also implicated. The most common phenoxyacetic acid herbicides are 2,4-D (2,4-dichloro) and 2,4,5-T (2,4,5,-trichloro), both used in Agent Orange.

One study found that farmers who used 2,4-D, the most commonly used lawn pesticide, on more than 20 days a year were six times more likely to develop NHL than those who were not so exposed. In addition, frequent herbicide users who also mixed the herbicides themselves were eight times more likely to develop this type of cancer (JAMA, 1986; 256: 1141–7).

In another study, men in Iowa and Minnesota who regularly handled the pesticides and insecticides carbaryl, chlordane, diazinon, dichlorvos and dichlorodiphenyltrichloroethane (DDT), lindane, malathion and toxaphene were at least 50 per cent more likely to contract NHL than non-farmers (Cancer Res, 1992; 52: 2447–55).

Studies in Sweden have shown similar results with the use of herbicides and fungicides (Cancer, 1999; 85: 1353–60), and the insecticide lindane has been shown to increase the risk of NHL by as much as 50 per cent (Am J Ind Med, 1998; 33: 82–7), with long-term users most at risk.

Other toxins

Increased exposure to PCBs (polychlorinated biphenyls), which are found in detergents, flame retardants, plastics and insulation materials as well as in hairspray and other personal-care items, may also be linked to the continuing rise in NHL

Researchers at the National Cancer Institute (NCI) in Bethesda, Maryland, matched the blood of 74 NHL patients against that of 147 controls without NHL. They found that blood concentrations of PCBs were 9 per cent higher in NHL sufferers than in those without the disease (Lancet, 1997; 350: 240–4).

Another study of those exposed to the flame retardant tetra-BDE found that NHL patients had significantly higher blood concentrations of the chemical. At-risk groups include professional car, bus and truck drivers (Lakartidningen, 1998; 95: 5890–3).

Benzene (chemically similar to lindane and DDT) is another common toxin linked to NHL (J Pathol, 1999; 189: 448–53). According to naturopath Hulda Clark, it is found in a huge range of everyday products—from toothpaste and breakfast cereal to bottled water and lubricated condoms (*The Cure for All Cancers*, Promotion Publishing, 1993).

In the UK, 70 per cent of benzene exposure is due to vehicle exhaust emissions (J Pathol, 1999; 189: 448–53).

There is also evidence to suggest that exposure to electromagnetic fields (EMFs)

may be a risk for certain types of cancer, including NHL (Cancer Causes Control, 1994; 5: 189–94, 299–309; Radiat Environ Biophys, 1996; 35: 11–8; Am J Epidemiol, 1988; 128: 21–38).

Finally, long-term use (more than 10 years) of hairdye, particularly very dark brown or black, may be increasing your risk of NHL and multiple myeloma anywhere from two to four times (Cancer Causes Control, 1999; 10: 617–25; J Natl Cancer Inst, 1994; 86: 210–5; Am J Public Health, 1992; 82: 1673–4).

Some recent studies have found no increased incidence (J Natl Cancer Inst, 1994; 86: 1466–70; Am J Public Health, 1998; 88: 1767–73). Nevertheless, some researchers believe that hairdyes may account for as many as 20 per cent of all cases of NHL in women. It is probably no coincidence that hairdye manufacturers now cover themselves by labelling their products with a caution if they contain toxins such as phenylenediamines.

Ultraviolet (UV) light

One intriguing potential cause of NHL is exposure to UV light—for instance, that used by sunbeds and for treating psoriasis and other skin diseases. Because there is a close link between NHL and skin cancer, scientists suspect that UV light—long associated with skin cancer because of its immunosuppressant effects—may also be a cause of lymphoma.

To test the theory, researchers at University Hospital in Uppsala, Sweden, and the Danish Epidemiology Science Centre in Copenhagen studied 113,010 patients who had various skin cancers and lymphomas (BMJ, 1995; 310: 1491–5). (In both countries, the rate of NHL has been rising at a rate of 2–4 per cent per year.)

What they found was a strong association between NHL and skin cancer, with the risk of NHL increased twofold if skin cancer had already been diagnosed. They concluded that exposure to UV light may have contributed to the recent increase in NHL.

More interesting is the evidence of a link between NHL and sunlight. Researchers in Sweden found that the risks for NHL increased the further south that individuals resided (Int J Cancer, 1999; 80: 641–5). Not surprisingly, Caucasians are most affected by UV exposure. There is some evidence that migration from one latitude to another (sunnier) climate can also increase the risk (Br J Cancer, 1996; 73: 945–50).

Food allergies

Scientific evidence suggests a link between some cancers and food allergies or sensitivities. The central question is whether food allergies protect people from cancer or predispose them to it.

William McWhorter, of the US NCI, has

Turning up the heat

While evidence is thin on the ground for many other alternative therapies, lymphoma has been shown to respond to heat treatment.

In a small American study of total body radiation (TBI) and additional treatment with either whole-body hyperthermia (WBH; raising body temperature to 41.8 degrees C) or chemotherapy (using the drug lonidamine), 100 per cent of those who had WBH responded *versus* 50 per cent of those who had TBI and lonidamine. Of the eight patients who received the TBI/WBH treatment, three were completely cured, four were partially cured and one was improved. In the TBI/drug group, there was only one complete cure and four partial cures.

After four years, two of the complete cures in the hyperthermia group were still clear of cancer.

The median survival time for the WBH group was over four years, compared with eight months in the chemotherapy group (Int J Radiat Oncol Biol Phys, 1990; 18: 909–20).

In an Australian study of 40 patients with intractable, recurrent, stage IV lymphoma treated with microwave radiation, another form of hyperthermia, and either small doses of chemotherapy or supervoltage radiation, 85 per cent of patients were completely cured and four patients were partially cured. Only two failed to improve.

The average survival time was 47 months—all the more impressive as these patients were considered untreatable (Med J Aust, 1980; 1: 311–3).

Hypothermia is now being used in some centres for breast and prostate cancer.

Altering your diet can protect against cancer

Non-Hodgkin's lymphoma in older women may be associated with a high-fat, high-protein diet, according to a recent study.

An increased risk of NHL was found in a study of more than 35,000 healthy Iowa women aged 55–69 years (JAMA, 1996; 275: 1315–21). The researchers found that the higher the intake of animal fat, saturated fat, monounsaturated fat (such as olive oil) and red meat (especially hamburger), the higher the risk of developing NHL.

Unlike the results of other studies, no association was found between NHL and milk or other dairy products.

On the positive side, the study clearly showed that high consumption of cruciferous and carotene-rich vegetables, and all types of fruits, had a protective effect.

Brian Chiu and his co-authors speculated that an excessive intake of fat and protein may induce chronic hyperstimulation of the immune system, making it unresponsive—and possibly leading on to—the development of cancers like NHL.

More recently, as part of the ongoing Nurses' Health Study at Harvard, more than 88,000 women have been followed for 14 years. Researchers found that the greatest increase in risk—nearly two and a half times—was associated with trans unsaturated fat intake, not saturated fats.

High intake of beef, pork or lamb as a main dish (not as a mixed dish or in sandwiches) more than doubled the risk of developing NHL over an intake of these meats of less than once a week (J Natl Cancer Inst, 1999; 91: 1751–8).

studied the link extensively, and reported that 13 such studies found allergy to be protective whereas two found it to be a risk factor.

In the 1971–1975 First National Health and Nutrition Examination Survey of 6108 adults, there was a highly significant positive association between the history of any allergy and the development of any cancer. Even after controlling for factors such as age, gender, smoking and race, there was a strong association between allergies expressed as hives, and lymphatic malignancies (Cancer, 1988; 62: 451–5).

One explanation is that, although allergies stimulate the immune system and thus may be protective, in the long term, such sustained 'allergic stress' may lead to an exhausted immune system. One finding in the McWhorter study supports this: the most protective effect was found in the youngest adults surveyed—those who were 25–34 years old—who had a 0.7 per cent risk of developing cancer (Cancer, 1988; 62: 453).

Other links have been made between coeliac disease and NHL. In the textbook *Modern Nutrition in Health and Disease* (Philadelphia: Lea & Febiger, 1980: 1177), Maurice Shils reported incidences of intestinal lymphomas in coeliac patients ranging from 6.2–10 per cent in three studies.

Shils remarks, "Males above 40 years of age with long-standing coeliac syndrome who are not eating a gluten-free diet are a major risk group."

Finding a cure

While our understanding of what causes NHL is growing, our ability to treat it remains stubbornly unevolved. First-line conventional treatment still includes radio- and chemotherapy, immunosuppressive drugs such as interferon-alpha and rituximab (a genetically engineered monoclonal antibody), surgery, and bone-marrow and stem-cell transplants.

What has hampered our understanding and treatment of NHL is that, unlike most solid tumours, it may initially respond well to chemotherapy. The resulting disease regression is often viewed as a cure and chemotherapy considered a success, especially in a profession which still uses five-year survival as the gold standard for cancer (and other) treatments.

Other research, however, indicates that even if NHL responds well initially to chemotherapy, the disease often recurs and the drugs don't work the second time around because of a decreased sensitivity to the drug (Leuk Lymphoma, 1995; 18: 303–10).

Frank Wiewel, of People Against Cancer, is one of a growing number who believes that the number of potential 'cures' for NHL

Preventing and treating NHL

◆ **Clean up your diet and environment**. Minimise in every way your exposure to chemicals. Eat organic wholefoods free of pesticides, and avoid chemicals such as hairdyes in the home and in toiletries.

◆ **Investigate food allergies**. Foods and chemicals in the environment probably represent some of the biggest challenges to our immune systems. If you have been suffering from vague food-related complaints such as bloating, aches, pains or headaches, now is a good time to consider seeking the help of a qualified nutritionist or allergist, who can help you determine if the problem is food allergy or sensitivity.

◆ **Is it microbes?** A blood test may reveal whether you are suffering from a viral infection, which may have triggered your cancer. Several oncogenic (cancer-causing) viruses carried by farm animals (such as herpesviruses and avian leukosis virus in chickens and other poultry, and papillomavirus in cattle) have been linked to NHL in farmers (Cancer Res, 1992; 52: [19 Suppl]: 5496s–500s).

The Epstein–Barr virus (EBV) is known to play a role in the development of aggressive NHL. In one study of 104 NHL patients, blood samples revealed antibodies to EBV (Cancer Res, 1992; 52 [19 Suppl]: 5479s–481s), suggesting that subclinical immune suppression by this virus may be at work in the body long before NHL develops.

In the Italian population, the prevalence of those who have both NHL and hepatitis C virus (HCV) is very high and, like EBV, HCV infection can precede NHL—often by many years (Recenti Prog Med, 1998; 89: 63–7).

◆ **Alkalinise your diet**. Research shows that the modern diet, high in animal protein, raises the net acid load in the body whereas fruits and vegetables add the alkaline bicarbonate ion to the blood, thus lowering the blood-acid level. A typically high alkaline diet, according to People Against Cancer, would be 70 per cent vegetables, 10 per cent fruit, 10 per cent meat and 10 per cent grains.

Also consider investing in a water ioniser (an alkaline water-maker). For more information, contact the US-based Ion and Light Co. (tel: 001 415 346 1682; website: www.ionandlight.com) or The Watershed (tel: 001 517 886 0440; website: www.watershed.net).

◆ **Use home heat treatment**. Heating the body to 40 degrees C (104 degrees F) together with taking ginseng or another substance to increase the effect of the heat can be useful in treating and preventing cancer. You can raise your own body temperature moderately by using whole-body wet wraps, saunas and hot baths. Of these, the hot bath is probably the easiest to set up. Taking a hot bath with a cup of Epsom salts and a cup of baking soda mixed into the water will have a gentle detoxifying effect on the body.

Taking the bioflavonoid quercetin at doses of 1000–1500 mg three times a day can aid hyperthermia in two ways: it helps to make the cell less resistant to heat treatment, and it lowers the pH inside of the cancer cells, making it less likely that the tumour will grow or spread (Boik J, *Cancer and Natural Medicine: A Textbook of Basic Science and Clinical Research*, Princeton, MN: Oregon Medical Press, 1995: 55).

◆ **Supplement your diet**. Vitamins A, C and E have all shown significant anticancer effects in clinical studies and should be part of any supplementation programme, especially high doses of vitamin C. The pesticide lindane has been shown to deplete the beta-carotene content of produce, leaving less available for human consumption.

Cancer patients have unique nutritional needs and other supplements should not be taken without the guidance of an experienced professional. For instance, while many cancer patients are deficient in vitamin B6, vitamin B12 can act as both a tumour promoter and inhibitor.

◆ **Watch and wait**. For some low-grade lymphomas that remain stable or are slow-growing, aggressive treatment such as chemotherapy has not demonstrated an ability to prolong life. Because of this, watching and waiting may be a reasonable option for some patients, undertaken together with a general clean-up of your diet and environment.

is as large as the number of people who suffer from it.

"Cancer is a symptom and most cancer research focuses on chemotherapy and its ability to target and suppress the symptom," he says. "Rarely does it focus on what cancer patients, indeed all of us, want: long-term survival and quality of life.

"The focus on a five-year survival rate is also meaningless because lymphoma doesn't progress like other cancers. It is a disease which waxes and wanes, and can do so over a period of many years."

Wiewel says the PAC currently has members who are 20-year survivors of NHL. Although he doesn't believe there is one simple blanket therapy for NHL, "experience has taught us that people respond to cancer treatments; cancers don't". He strongly believes that whatever is toxic to the body is almost always at the root of disease.

He also advocates adequate hydration with alkalised water and a low-protein, low-fat diet (see boxes on pages 46 and 48).

This opinion is echoed by Ralph Moss (*Questioning Chemotherapy*, Equinox Press, 1995) who believes that it is the chemotherapy, rather than the disease, that diminishes quality of life and is often the cause of death in cancer patients.

Moss describes the side-effects of the drug 'cocktail' ICE (ifosfamide plus carboplatin plus etoposide), used for NHL and other cancers, as reported in the *Journal of Clinical Oncology*. Of patients given a mid-range dose, 50 per cent had central nervous system and lung complications. Among high-dose recipients, 61 per cent had liver toxicity, 81 per cent ear damage and 70 per cent kidney toxicity. More than 90 per cent had "adverse pulmonary events" and an extraordinary 94 per cent suffered heart damage.

From an holistic point of view, NHL is best described as a cry for help from a polluted body. All the available evidence suggests that, to reduce the risk of developing NHL and to fight it once it occurs, taking multiple actions to detoxify our environments—both inside and outside of the body—may be the most positive and productive way to deal with this renegade form of cancer.

CHAPTER 6 Non-fatal cancers: when cancer isn't a death sentence

Non-lethal cancers, spontaneous remissions, people with genetic risk factors who don't get cancer in their lifetime—these things are neither mystical nor miraculous; they are medical facts. Yet, there are few subjects that make mainstream physicians more nervous or uncomfortable than the idea of cancers that cure themselves.

Most cancer treatments are doled out on the basis that cancer is: a) always aggressive and life-threatening; and b) that it won't get better on its own.

But how sound are these seemingly basic assumptions?

A recent letter to *The Lancet* dared to suggest that a particular form of breast cancer—ductal carcinoma in situ—may simply burn itself out in time (Lancet, 2002; 360: 1101)(see also Chapter 1, pages 7–19).

The authors noted that local regression (in other words, spontaneous healing) of this relatively mild form of cancer was first described 70 years ago (J Pathol Bacteriol, 1934; 38: 117–24) and has also been noted in some textbooks (Rosen PP, *Rosen's Breast Pathology*, 2nd edn, Philadelphia: Lippincott Williams & Wilkins, 2002). But otherwise, it has been largely ignored by the medical profession.

The authors, scientists at the Western Australia Centre for Pathology and Medical Research, say that in their experience of six years of performing core biopsies of DCIS, they often discover microcalcification lesions—areas of breast tissue that were probably once cancerous, but where the cancer has burnt itself out. They are not sure if high-grade DCIS could burn itself out in the same way, but the mere existence of such lesions has profound implications for those attempting to devise appropriate treatments for individual cancers.

Apart from the impact that it can have on the patient's life, treating non-threatening cancers provides a high 'feel-good' factor for doctors. Normally impotent in the face of this perplexing disease, doctors who get a good result with a low-grade cancer may feel as if they are achieving something, which adds to the illusion that we really are 'winning the war' against cancer.

Because of medicine's inability to distinguish between the life-threatening and non-threatening cancers, patients with a positive diagnosis are often given the full force of medical treatment: surgery, irradiation and drugs for cancers that might not have been a threat to their lives in the first place.

What's more, all conventional treatments further weaken the immune system—an important factor since immune competence may be an important aspect in encouraging spontaneous remissions.

Sometimes, a conventional treatment works—but no one knows why. While no one would wish to give false hopes of a spontaneous remission to someone suffering from cancer, the fact is that spontaneous remissions do occur—perhaps more often than we realise and maybe even without our ever knowing it. In fact, cancer can develop in the body, but be kept so well in check by our own biological processes that it will cause no ill effects whatsoever.

Prostate cancer is often a slow-growing condition that is not necessarily life-threatening. Other types of tumours, such as sarcomas, are also generally slow to grow.

Unfortunately, doctors are often ill-equipped to discriminate between slow-growing, less-aggressive cancers and those that are aggressive and life-threatening. This is the 'X factor' that prompts doctors to advise regular screening programmes and, on detection of a potential cancer, swift treatment with chemotherapy and radiation treatment.

These slow-growing—and sometimes non-growing—tumours look the same as life-threatening ones under the microscope; they only behave differently in the body. The latest evidence suggests that regular screening is most likely to pick up these slow-growing, non-lethal cancers and lead to overtreatment that may actually increase death rates rather than reduce it

Is cancer a metabolic disturbance?

Researchers such as Dr Gershom Zajicek, of the HH Humphrey Center of Experimental Medicine and Cancer Research in Israel, believe that cancer begins as a metabolic disturbance (Zajicek G, Cancer is a metabolic deficiency, in Iversen OH, ed, *New Frontiers in Cancer Causation*, Washington, DC: Taylor & Francis, 1993: 81–96). This is at odds with the conventional view that cancer is the cause of metabolic disturbances. According to Zajicek's writings, encompassing the medical, philosophical and practical aspects of cancer survival, cancer is normally kept in check by what he calls the 'wisdom of the body', a term first coined in the 1930s (Cannon WB, *The Wisdom of the Body*, New York: Norton, 1932).

In a healthy body, balance is maintained and cancer never develops—or, if it does develop, it is kept in check by the homoeostatic systems of the body. In addition, he proposes that there is more to cancer than the tumour (Anticancer Res, 1999; 19: 4907–12) and that the disease is not a separate *f*entity from the person.

Thus, attacking the disease with conventional methods is akin to attacking the person and, ultimately, reduces the chances of survival. In contrast, boosting the individual's physical and emotional coping mechanisms can lead to either remission or to the body's learning to 'live in peace' with its cancer.

Zajicek's theories have been published (Med Hypoth, 2001; 57: 243–8; Med Hypoth, 1986; 21: 105–15; Med Decis Making, 1993; Jul–Sept: 245–6), and his ideas can be accessed on www.what-is-cancer-com.

(Arch Intern Med, 2000; 160: 1109–15; Lancet, 2001; 385: 1340–2, 1284–5).

Knowledge after death

Evidence from autopsies has taught us some amazing facts about cancer. These examinations regularly turn up otherwise undetected cancers that were not the cause of death. Undetected cancers, of course, make a mockery of the official cancer registries since, clearly, a sizeable proportion of cancers are never diagnosed. They tell us that the incidence of cancer is much higher than we believe it to be. They also tell us that cancer is not always a killer.

These undiagnosed cancers are referred to in the medical dialect as 'disease reservoirs'. When Swedish scientists spent a year of concentrated effort in an attempt to find all the lung-cancer cases in the country, they discovered that the true rate of lung cancer in Sweden was 40–50 per 100,000, and not the 30 per 100,000 they thought it was. That's a significant 30–60 per cent 'reservoir' of undetected cancer (Lung Cancer, 2002; 37: 137–42).

Other studies have shown high rates of lung cancer only detected after death (JAMA, 1987; 258: 331–8; Chest, 1986; 90: 520–3). Reasons for the lack of diagnosis were in part because some elderly patients were simply too sick to undergo diagnostic testing for troublesome symptoms. But another reason was that patients showed no symptoms that betrayed the presence of cancer—and most were non-smokers, a group unlikely to be referred for lung-cancer investigations in the first place.

Another Swedish study found that as much as 15 per cent of major cancers were not diagnosed before death, and around half of these were of a type normally considered fatal (Hum Pathol, 1994; 25: 140–5). In this study, the discrepancy between medical diagnosis in life and autopsy findings after death was higher in elderly patients, a finding that echoed an earlier Swedish study which concluded that undetected cancer in this older age group may be the result of undifferentiated symptoms such as weakness and fatigue as well as the type of tumours detected, which were often small and slow-growing (Nord Med, 1989; 104: 23–4, 29).

However, as some researchers have also discovered, cancer in older people is generally less aggressive than those in younger people—though no one is sure why (Int J Radiat Oncol Phys, 1982; 8: 1471–80; Cancer J, 1994; 7: 212–3; McKay FW *et al., Cancer Mortality in the US, 1950–1977*, NIH Publ No. 82-2435, 1982).

Other studies have found high rates of undetected colorectal cancer after death (Gastroenterol J, 1989; 49: 26–8) and, when US researchers reviewed autopsy studies of women not known to have breast cancer and who died from other causes, they

found that 1.3 per cent of the women had occult (hidden) invasive breast cancer and 8.9 per cent had DCIS (Ann Intern Med, 1997; 127: 1023–8). Taken as a whole, such findings clearly have implications for what it really means to have cancer.

Why does cancer go away?

The mechanisms of spontaneous remission are by no means fully understood. The most popular theory is that some form of immunological reaction occurs, though this is still unproven (Onkologie, 1995; 18: 388–92).

There also appears to be a connection between extreme high fever and remission of cancer (Blut, 1990; 61: 346–9; *Spontaneous Remission: An Annotated Bibliography*, Sausalito, CA: Institute of Noetic Sciences, 1993). High fever in childhood or adulthood may protect against the later onset of cancer, and spontaneous remissions are often preceded by feverish infections (Neuroimmunomodulation, 2001; 9: 55–64).

Hypothyroidism may also trigger apoptosis (cell death) in tumours (Anticancer Res, 1999; 19: 4839–44). Yet another theory is that DNA methylation, which is involved in cell differentiation, may play a part in spontaneous cure (Mutat Res, 2000; 462: 235–46).

Finally, some believe that psychological factors have an influence (Zeitschr Psychosom Med Psychother, 2000; 46: 57–70). Today, this is not as far-fetched as it once seemed, given all we now know about stress and disease, and the way that the nervous system can directly influence the functioning of the immune system.

It's a miracle—or maybe not

Most of the information on spontaneous regression is the result of efforts by noetic scientists. Indeed, the standard work on the subject, *Spontaneous Remission: An Annotated Bibliography* (Sausalito, CA: Institute of Noetic Sciences, 1993), lists 1051 case reports published in the peer-reviewed medical literature. This compendium has much to tell us about spontaneous remission, and is also likely to represent only a small fraction of individuals who have not received conventional treatment, yet whose bodies have won the battle against cancer.

A simple Medline search on the Internet for reports of spontaneous remissions of cancer (that is, remissions occurring without treatment or with inadequate treatment) produces a wealth of case reports on the subject from all over the world.

Among the cancers reported to have remitted spontaneously are:

- **adult T-cell leukaemia and/or lymphoma** (Leuk Lymph, 2000; 39: 217–22; Blut, 1990; 61: 346–9)
- **oesophageal cancer** (Dis Esoph, 1999; 12: 317–20)
- **liver cancer** (Hepato-Gastroenterol, 1998; 45: 2369–71; J Hepatol, 1997; 27: 211–5)
- **lung cancer following coma as a result of myxoedema**—dry, waxy swelling of the skin due to an underactive thyroid—(J Natl Cancer Inst, 1993; 85: 1342–3)
- **squamous cell lung cancer** (Atemwegs-Lungenkrankh, 1995; 21: 536–8)
- **metastatic non-small cell lung cancer** (Ann Oncol, 1997; 8: 1031–9)
- **lung metastases from a cancer of the uterus** (Zeitschr Onkol, 1997; 29: 87–8)
- **scalp and/or lung metastases from a kidney carcinoma** (Am J Clin Oncol Cancer Trials, 1997; 20: 416–8; Hong Kong Med J, 1999; 5: 72–5)
- **bladder cancer** (Eur J Surg Oncol, 1992; 18: 521–3)
- **liver, spleen and peritoneal metastases following unsuccessful surgery for liver cancer** (J Gastroenterol Hepatol, 2000; 15: 327–30)
- **lung metastases from a cancer of the liver** (Pathol Int, 1999; 49: 893–7)
- **metastatic malignant melanoma** (Ann Plast Surg, 1991; 26: 403–6)
- **large tumour of the mediastinum** (chest cavity) (Ann Thorac Surg, 2002; 74: 1711–2).

What this means is that spontaneous remission not only occurs, but is well acknowledged outside of the miraculous and religious context in which it is so often shrouded.

Spontaneous regression of cancer is not a miracle, a fantasy or a medical fluke. It is a biological reality. If we were truly serious about curing cancer, we would be paying much more attention to this important phenomenon.

Shadows on the brain

One of the most recent studies on psychosomatic cancer therapy comes from Germany. Over the past 10 years, medical

doctor and cancer surgeon Ryke-Geerd Hamer has examined 20,000 cancer patients with all types of cancer.

Dr Hamer wondered why cancer never seems to systematically spread directly from one organ to the surrounding tissue. For example, he has never found a cancer of the cervix and cancer of the uterus in the same woman. He also noticed that all his cancer patients seemed to have something in common: they had all experienced some kind of psychoemotional conflict prior to the onset of their disease, a conflict that had never been fully resolved.

On the basis of these 20,000 examinations, Dr Hamer has come up with some revolutionary information. In all of these cases, X-rays taken of the brain by Dr Hamer have shown a dark shadow somewhere in the brain. These dark spots are located in exactly the same place in the brain for the same type of cancer. There was also a 100-per-cent correlation between the dark spot in the brain, the location of the cancer in the body and the specific type of unresolved conflict.

These findings have led Dr Hamer to suggest that, when we are in a stressful conflict that is not resolved, the emotional reflex centre in the brain that corresponds to the experienced emotion (for example, anger, frustration or grief) will slowly break down. Each of these emotion centres is connected to a specific organ. When a centre breaks down, it will start sending the wrong information to the organ it controls, resulting in the formation of deformed cells in the tissues—in other words, cancer cells.

Dr Hamer also suggests that metastases are not the same as cancer spreading. It is the result of new conflicts that may well be brought on by the very stress of having cancer or of having to undergo invasive, painful or nauseating therapies.

When Dr Hamer started including psychotherapy as an important part of the healing process, he found that when the associated conflict was resolved, the cancer immediately stopped growing at a cellular level. The dark spot in the brain also began to disappear, and the diseased tissue came to be replaced by normal tissue.

According to Dr Hamer, research in Germany, Austria, France, the US and Denmark has confirmed his findings—that emotional conflicts create cancer, and solving the conflicts in question stops the cancer growth (for more information, see Dr Hamer's website: www.pilhar.com/English/NewMed/01NewMed.htm).

Pollution and aggressive cancers

The flipside of the question of why cancer suddenly disappears is, of course, what makes an otherwise slow-growing cancer suddenly spread. Some scientists believe that the answer lies in our environment.

When most people think of environmental agents, they think of how these agents can cause cancer. However, preliminary evidence from scientists at the Medical College of Wisconsin suggests that such agents can also act on already established cancers.

The researchers, led by Paul F. Lindholm, presented their findings at the 90th American Association for Cancer Research meeting, held in Philadelphia on 10–14 April 1999. They noted that aggressive prostate cancer cells were different in their genetic makeup from dormant cells, and that environmental pollutants such as heavy metals, cigarette smoke, pesticides, or car and truck emissions could trigger them to attack and spread more rapidly through the body. They also noted that these same pollutants could turn 'benign' prostate cancer cells into killer cells.

Their ongoing research is supported by a grant from the US Environmental Protection Agency (EPA). For an Internet update on their progress, go to: http://cfpub.epa.gov/ncer_abstracts/index.cfm/.

The human body is miraculous—more finely tuned and much more subtle in its reactions than we are generally able to appreciate or comprehend. We can't force the miraculous to happen. But, according to some, we can create the environment in which 'miracles' can happen. But when spontaneous remission does occur, it is difficult to determine what aspect of the person's life began to reverse the process.

Whether by diet and exercise, or resolving inner conflicts, anyone who takes seriously the responsibility of staying healthy must be committed to looking after both body and soul. This approach may provide the most useful key to reducing and reversing cancer in the modern world.

CHAPTER 7 Skin cancer: the hidden causes

Of the three main types of skin cancer, two of them—basal cell and squamous cell carcinomas—are increasing in prevalence, but both are treatable. The third type—malignant melanoma—is rarer, but far more lethal.

Basal cell carcinoma (BCC), or 'rodent ulcer', is the most common form of skin cancer. It develops in parts of the body most exposed to the sun, especially the face and hands, but does not spread. Left untreated, BCC can burrow deeply into underlying tissues, causing disfigurement and serious damage.

Squamous cell carcinoma (SCC) is thought to be the result of cumulative sunlight exposure and usually develops in old age. It is more dangerous that BCC because it can spread to other parts of the body. There is growing evidence that a major cause of SCC is intermittent sun exposure of skin unaccustomed to solar radiation.

Malignant melanoma is the most dangerous form of skin cancer; it can spread very quickly and, unless caught early, can be difficult to treat. It develops from cells in the outer layer of the skin called melanocytes, which produce melanin, a pigment that helps protect the deeper layers of the skin from damage.

Melanomas usually start in moles or in areas of normal-looking skin. However, in rare cases, they can occur in other parts of the body such as the eye, rectum, vulva, vagina, mouth, respiratory tract, gastrointestinal tract and bladder.

In the UK, melanomas are the twelfth most common cancer in men, and eleventh in women. In 1997, there were 2020 new cases of melanoma in men and 2670 cases in women (Office of National Statistics). However, deaths in 1999 were 761 for men and 711 for women. For non-melanoma cancers, despite an incidence of over 44,000 new cases a year, the total number of deaths was 212 for men and 157 for women. This compares with totals for all cancer deaths in 1999 of 68,968 for men and 64,697 for women.

Doctors still do not know all the causes of malignant melanoma. The conventional line, promoted by the likes of The Imperial Cancer Fund, identifies the following risk factors:

- **Sun exposure**, particularly sunburn and/or intense sun exposure in childhood increases the risk of developing melanoma in later life. Short periods of intense exposure to sunlight seem to increase the risk of developing melanoma.
- **Sunbeds and sunlamps**. These emit mainly ultraviolet-A (UVA) radiation and are a potential risk when used excessively.
- **Age**. Malignant melanoma is rare in young children and most common in those aged 40–60 years, although it can occur in young adults.
- **Moles**. The average young adult has at least 25 normal naevi or moles. People who have large numbers of moles, say 50–100, are at an increased risk. Dysplastic naevi (atypical moles) are generally larger than normal moles and uneven in colour,

Using sunlamps may double skin-cancer risk

People who use sunlamps to achieve an all-year-round tan may double their risk of developing skin cancer, according to a new US study.

Researchers interviewed 603 patients with basal cell skin cancer and 293 patients with squamous cell skin cancer. They also talked to 540 controls who did not have either type of skin cancer. Melanoma patients were not included in the study.

Statistical analysis of the data showed that those who used tanning devices were 2.5 times more likely to develop squamous cell skin cancer and 1.5 times more likely to get basal cell skin cancer.

The risk was greatest for those who first used the tanning devices before the age of 20 (J Natl Cancer Inst, 2002; 94: 224–6).

Aloe vera may get rid of skin cancer

I had one of those rodent ulcers surgically removed some two years ago. The NHS consultant didn't want to deal with it straightaway, although it would have taken her only half an hour, and wanted to put me on a long waiting list.

So I panicked and had it removed privately. The cost? £800. This shows how expensive this sort of thing is in this country!

About four weeks ago, I accidentally discovered another one of those 'rodent ulcers' on my arm and a much smaller one on another part of my arm.

I was going to the GP, but since I very much believe in alternative solutions, I thought I'd try aloe vera skin gel first. Quite frankly, I didn't believe for a minute that it would actually work, but I thought that since this is one of the carcinomas that doesn't spread, it wouldn't do any harm to experiment a bit, and that it wouldn't matter if I didn't go to the GP straightaway.

And now—would you believe it?—barely a fortnight after I started to put the gel on, both of the lesions have completely disappeared! The smaller one disappeared in a day or two and the rather big one disappeared within a fortnight—just peeled off in the bath—and beautiful new healthy skin has grown underneath.

The gel I used is Aloe Gold, the ultimate aloe vera skin gel—"the highest potency aloe available" from Higher Nature (Burwash Common, East Sussex TN19 7LX).

I thought this might interest you and your readers, especially since I know they treat this type of skin cancer successfully with pharmaceutical creams in America, where the diseased cells are also supposed to 'peel off', which is exactly what happened with my aloe vera gel treatment!

I hope this will be of use to other people who suddenly discover they have a 'rodent ulcer'.—**BB, via e-mail**

***WDDTY** replies: We pass on this story, but also suggest that any readers undergoing a similar treatment have any carcinoma checked out professionally to make sure that it has completely gone.*

with an irregular border. People who have multiple dysplastic naevi have an increased risk.

◆ **Fair skin colour**. Fair skin contains less melanin than darker skin. Thus, individuals with fair skin (especially skin that freckles or burns easily) have an increased risk of developing melanoma. However, people with dark skins can still develop melanoma, especially on the soles of the feet or palms of the hands.

◆ **Family history**. The risk of developing melanoma is increased if a person's parents, siblings or children have had a melanoma. If only one family member has been afflicted, the risk to the rest of the family is low. However, if there have been three or more cases of melanoma within a family, the risk is greater.

◆ **Reduced immunity**. Those who have been treated with drugs which suppress immune system function—for example, organ transplant patients—have an increased risk of developing melanoma.

◆ **Personal history of melanoma**. People who have been diagnosed with malignant melanoma have an increased risk of developing another melanoma.

◆ **Xeroderma pigmentosum** (XP). People with this rare inherited condition are less able to repair the damage caused to their skin by the sun's UV radiation. Thus, these individuals have a high risk of developing skin cancers, including melanoma.

The sun myth

Is the sun the real culprit?

This much cherished view has received a battering recently, this time by researchers from Yale University.

They have found a link between sunburn and a melanoma that may form later at the exact same spot. However, they were unable to explain why a fair number of melanomas form on parts of the body that are rarely, if ever, exposed to the sun (Int J Cancer, 1996; 67: 636–46).

Other evidence doesn't support the role of the sun as causing melanomas. Studies have shown, for instance, that those who work outdoors don't usually develop skin cancer. Indeed, the research shows that

people with indoor jobs have a higher risk of getting skin cancer (Arch Environ Health, 1990; 45: 261–7), while those with jobs that move them both indoors and out of doors have the lowest incidence—nearly a quarter less skin cancer than would be expected in the general population.

One factor that has been implicated recently is fluorescent lighting. Studies have shown that this type of lighting, which is ubiquitous in offices, can double the cancer risk in women and quadruple the risk in men exposed for more than 10 years (Lancet, 1982; *ii*: 290–3).

The risk is also increased in people who are exposed to fluorescent lighting over the long term. However, this risk is mitigated among those who also have regular exposure to genuine sunlight. Indeed, men who had spent the least amount of time in the sun had the highest rates of cancer.

Animal studies show that fluorescent lights can cause malignancies in embryonic cells (Vopr Onkol, 1987; 33: 35–9). This type of lighting can also increase levels of stress hormones in humans—so much so that the German government has now banned the use of such lights in hospitals and other medical facilities (Ophthalmologica, 1980; 180: 188–97).

Other skin-cancer risk factors

- **Oral contraceptives**, which appear to treble the risk (US NIH report, 1986; 3: 247–52)
- **mobile phones**, which also treble the risk among constant users (Epidemiology, 2001; 12: 7–12)
- **chlorinated water and sodium hypochlorite,** used in drinking water or swimming pools (Epidemiology, 1992; 3: 263–5)
- **water pollution** (Epidemiology, 1992; 3: 263–5).
- **omega-3 fatty-acid deficiency,** as a result of a high intake of margarine and polyunsaturated oils. Animal studies have shown that ultraviolet (UV) light can induce tumours in animals with essential fatty acid deficiencies and high intake of polyunsaturated fats (Environ Dermatol, 1996; 3 [Suppl 1]: 20–5).

Suncreams

When the sun is out, many of us feel we are doing our best to protect our skin by using suncreams. But some scientists believe that sunscreens may, in fact, encourage the development of skin cancer. In addition, some of the chemicals in suncreams are oestrogenic and may be toxic to living cells.

Two basic types of creams are available: chemical sunscreens, which absorb UV light; and chemical sunblocks (usually based on minerals), which reflect or scatter UV light. In general, the higher the SPF (sun protection factor), the greater the number of chemicals. And with more chemicals comes an increased risk of allergic reactions (Contact Derm, 1997; 37: 221–32).

Yet, ironically, the latest research suggests that some of these chemicals could themselves be the cause of malignant melanoma (BMJ, 1996; 312: 1612–3). Sunscreen chemicals are easily absorbed into

Beyond suncream

We need sun. As little as 15 minutes of exposure triggers the synthesis of valuable vitamin D in the body necessary to prevent diseases such as osteoporosis, diabetes, arthritis, depression, obesity and even autoimmune diseases. According to a recent review, sunlight exposure may even prevent death from a range of reproductive and digestive cancers (Cancer, 2002; 94: 1867–75). Most sunscreens block this synthesis. If you intend to be out in the sun for extended periods of time, in addition to suncream, consider staying out of the sun between 11 am and 3 pm, and wearing protective clothing.

Specially designed clothing (reputed to block ultraviolet rays), however, is expensive and not necessary. Most summer clothes provide an SPF of more than 10. According to one report, measurements of over 5000 fabrics submitted for testing to the Australian Radiation Laboratory showed that 97 per cent of fabrics fell into this category. In fact, more than 85 per cent of the fabric samples had an SPF of 20 or higher (Gies HP *et al*., Textiles and sun protection, in: Volkmer B *et al*., eds, *Environmental UV Radiation, Risk of Skin Cancer and Primary Prevention*, Stuttgart: Gustav Fischer, 1996: 213–34).

the bloodstream through the skin (Lancet, 1997; 350: 863–4; Br J Clin Pharmacol, 1999; 48: 635–7). Studies showing that some sunscreens are toxic to living cells makes this possibility a particular concern. Laboratory tests by the Norwegian Radiation Protection Authority found that the sunscreen octyl methoxycinnamate (present in more than 90 per cent of suncreams) quickly killed animal cells exposed to light (New Sci, 7 October 2000).

While some believe that mineral sunblocks such as zinc oxide and titanium dioxide are 'better' because they are unlikely to be absorbed into the body, Australian research suggests that microfine titanium dioxide particles can, in fact, be absorbed into the skin (Australas J Dermatol, 1996; 37: 185–7). What we don't know is the fate of these particles or their effect on the body once they have been absorbed.

Environmental oestrogens and their effect on human health is a growing concern. Recently, Swiss scientists found that the most common UV-screening chemicals are adding to the burden. They tested six such chemicals: benzophenone-3, homosalate, 4-methylbenzylidene camphor (4-MBC), octyl methoxycinnamate, octyl dimethyl-PABA and butyl methoxydibenzoylmethane (B-MDM).

In the lab, all but B-MDM behaved like oestrogen, making cancer cells grow more rapidly. In animals, 4-MBC had a particularly strong effect, doubling the rate of uterine growth before puberty (Environ Health Perspect, 2001; 109: 239–44).

Japanese research has also confirmed the oestrogenic potential of sunscreens (Toxicology, 2000; 156: 27–36). Critics argue that laboratory tests do not accurately reflect how chemicals behave in the human body. Yet, with any other drugs, when a lab test indicates potential harm, it is customary to follow-up with clinical studies. In the multimillion-dollar industry of sun protection, however, no one seems inclined to conduct research that might burst such a profitable bubble.

The protection myth

Most people are confused about why we use sunscreens in the first place. Used properly, a sunscreen will prevent sunburn —but the evidence of their effectiveness against most skin cancers is pretty thin (Am J Public Health, 1992; 82: 614–5). While sunscreens may reduce the risk of squamous cell carcinoma (Lancet, 1999; 354: 723–9; JAMA, 1994; 271: 1662–3), their protection against the more serious basal cell carcinoma and the deadly malignant melanoma is less clear.

The latest thinking is that sunscreens and sunblocks may actually increase the risk of melanoma (Int J Cancer, 2000; 87: 145–50; Ann Epidemiol, 1993; 3: 103–10; J Invest Dermatol Symp Proc, 1999; 4: 97–100). Other findings, however, dispute this (Br J Dermatol, 2002; 146 [Suppl 61]: 24–30; Ann Epidemiol, 2000; 10: 467). Also, it is not known whether it's the

Natural sun protection?

Many 'natural' suncreams use ingredients such as plant oils and antioxidants such as vitamins E and C, believed to enhance the ability of skin cells to repair cellular and DNA damage due to UV exposure (Mol Carcinog, 1999; 24: 169–76). There is also some evidence that, added to conventional formulas, vitamins C and E will enhance the effectiveness of chemical sunscreens (Acta Derm Venereol, 1996; 76: 264–8).

While evidence on topical antioxidants is thin, used as a supplement, they may bolster the skin's natural defences against sunlight. In one study, 2 g of vitamin C and 1000 IU of vitamin E daily reduced sunburn reactions. Interestingly, neither supplement on its own gave any protection against UV radiation, suggesting a synergistic relationship that we don't yet understand (J Am Acad Dermatol, 1998; 38: 45–8).

UV exposure depletes beta-carotene, making the skin more prone to sun damage. In a 12-week German study, 20 fair-skinned men and women took supplements of either 25 mg of mixed carotenoids alone or together with 500 IU of natural vitamin E. Tests using UV light showed that the carotenoids plus vitamin E provided the best protection (Am J Clin Nutr, 2000; 71: 795–8). In the US, beta-carotene is considered a safe and effective treatment for those with skin that is overly sensitive to sunlight due to a genetic disorder (JAMA, 1974; 228: 1004–8).

Fruit and veg help prevent skin cancer

A diet low in fat and high in fruit and vegetables can prevent skin cancer. Five servings of fruit and vegetables a day—recommended by several health bodies but followed by only a small minority of the population—is enough to scavenge up the free radicals released in the body by sunlight.

The ideal diet for preventing skin cancer includes taking in less than 20 per cent of your calories from fat, having five servings of fruit and vegetables, taking the equivalent of 25,000 IU of beta-carotene (the equivalent of one-and-a-half carrots), 400 IU of vitamin E, 100 mcg of selenium from food, and 500 mg of vitamin C, also from food.

The diet, suggested by Harvey Arbesman from Buffalo University to delegates at the American Academy of Dermatology, may also prevent the development of precancers, known as 'actinic keratoses', and of non-melanoma skin cancers.

Arbesman stressed the importance of a low-fat diet. In one study, patients who followed this part of the diet alone had fewer new skin cancers detected after eight months and after two years (JAMA, 1998; 279: 1427–98).

sunscreens themselves or the false sense of security they offer, encouraging fair-skinned individuals to stay out longer in the heat of the day, that is responsible for the association (J Natl Cancer Inst, 1999; 91: 1269–70).

Other theories on the skin-damaging effects of suncreams abound. Some researchers believe that the breakdown of oxybenzone by UV rays destroys or inhibits the skin's natural defence system against sunlight, leaving skin vulnerable to the skin-ageing free radicals caused by sun exposure (J Invest Dermatol, 1996; 106: 583–6).

Others believe that the free radicals generated by the sunscreams themselves may be a problem. And even if your suncream absorbs harmful UV photons, this energy still has to be discharged somewhere—usually directly onto the skin, potentially increasing the risk of sun-related skin damage and cancer (Mutat Res, 1999; 444: 49–60; Biol Rev Camb Philos Soc, 1999; 74: 311–45; FEBS Lett, 1997; 418: 87–90; FEBS Lett, 1993; 324: 309–13).

As a result of these kinds of concerns, some manufacturers have taken the lead and discontinued some of the worse ingredients, such as 5-methoxypsoralen (BMJ, 1979; 3 Nov: 1144).

Clearing up SPF confusion

To better enjoy the summer sun, most of us are encouraged to look for products with a high SPF. In theory, the higher the SPF, the longer we can safely stay in the sun. So, an SPF of 15 means that you can sunbathe 15 times longer than without the sunscreen. But research shows that the protection provided by most products is often much less than suggested by the SPF (BMJ, 1996; 313: 942). This may be why sunscreen use is associated with a higher risk of melanoma (Eur J Cancer Prev, 1999; 8: 267–9).

This uncertainty as to whether sunscreens deliver the protection they promise has led some scientists to ask how much sun protection do we really need? Writing in the *British Medical Journal* (2000; 320: 176–7), Professor Brian Diffey, at Newcastle General Hospital, stated his belief that, for most people—even children and those who burn easily—a product with an SPF of 10, applied liberally, would be more than adequate protection for a holiday without sunburn.

When looking for a 'natural' suncream, it is helpful to modify your expectations by understanding that few products will contain all-natural ingredients since it is difficult (though not impossible) to make an effective suncream without using some synthetic or semisynthetic chemicals.

But it is useful to check out the labelling to see whether there is a mineral-oil or vegetable-oil base. Have plasticisers or natural waxes been used to help the product stick together and adhere to the body? Have synthetic perfumes or essential oils been added?

When buying suncreams, never take marketing claims at face value, but always read the label to be sure of what you're getting.

As for the amount you need to use, the average adult should be applying around 35 mL (equivalent to 7 tsp) of suncream for a whole-body application. But many consumers only apply a thin layer of cream with each application, another reason why the SPF may be misleading. The manufacturer's SPF is based on a standard thickness test that doesn't resemble the product's use in the real world—usually around a quarter of what is needed to provide genuine protection.

The high pricetag for sunscreens is cited as one reason for this. A recent Consumers Association report (Which?, 2001; June: 8–10) found that buying name-brand suncreams was prohibitively expensive—as much as £60 per person for a week's holiday.

Nevertheless, this underuse phenomenon has been observed even when the sunscreens were given away free (J Natl Cancer Inst, 1999; 15: 1304–9). The recent development of 'once-a-day' sun products is unlikely to help reverse this trend.

CHAPTER 8 The most promising alternative remedies for cancer

Although many of the most promising alternative cancer therapies have been around for most of this century, there is a peculiar lack of scientific study assessing them.

This situation is more a comment on the orthodox camp's paranoia about employing any new treatment against cancer (and thus admitting defeat or letting go of a multibillion-dollar industry) than a statement about the efficacy of the treatments in question.

Despite such a climate of suppression, a number of alternative treatments have been the subject of properly designed laboratory and clinical research. Although all treatments would benefit from further study, these certainly appear to be more promising than most of the tools used by orthodox medicine.

Although many treatments have wide anecdotal reports of success (such as the Essiac herbs), we have concentrated on those therapies with the greatest scientific evidence. Some—like Govallo's vaccine, derived from human placenta, or Coley's toxins, from bacteria—stretch our definition of alternative medicine to the limit. Nevertheless, we include them because they offer very good results and expand our understanding of this complex condition.

Vitamin C

Thirty years ago, Scottish surgeon Ewan Cameron postulated that any substance which strengthened the intercellular 'cement' that binds cells together would probably help to resist invasion by malignant tumour cells. Vitamin C prompts cells to produce higher levels of hyaluronidase inhibitor, which prevents the hyaluronidase produced by cancer cells from breaking down this cement between cells. Vitamin C also helps strengthen the cement itself by helping to synthesise collagen (Pelton R, Overholder L, *Alternatives in Cancer Therapy*, Fireside, 1994). We also know that vitamin C stimulates natural-killer (NK)-cell activity.

After teaming up with twice Nobel Prize-winner Dr Linus Pauling, Cameron gave vitamin C to 100 Scottish cancer patients, who were considered beyond treatment. These patients survived four times as long (210 days) as 1000 similar patients who had not been given the vitamin (Proc Natl Acad Sci, 1976; 73: 3685–9).

Another study also showed that those taking the vitamin C lived nearly a year longer than those not receiving it, and many continued to live on for years, while all of those not receiving the supplement eventually died (Proc Natl Acad Sci, 1978; 75: 4538–42).

A later study with lung-cancer patients had similar results (J Int Acad Prev Med, 1979; 6: 21–7).

Then, in 1990, Pauling and Canadian biochemist and psychiatrist Dr Abram Hoffer published a study examining the survival of cancer patients following a nutritional programme. Those who did not use vitamins survived for an average of only 5.7 months whereas those taking daily supplements, which included beta-carotene and 10 g of vitamin C, 80 per cent lived 16 times as long as the control patients. Indeed, many were still alive at the time the paper was published. The best responders were women with cancers of the breast, ovaries or fallopian tubes (J Ortho Med, 1990; 5: 143–54).

Gerson therapy

German-born Dr Max Gerson's programme is a low-fat, salt-free, meat-free diet, including organically grown fresh fruit and vegetables, and 13 glasses of freshly squeezed juices every day, taken at hourly intervals.

Gerson famously realised more than 50 years ago that the high sodium-to-potassium ratio of the modern Western diet was riotously out of kilter. He also introduced detoxification using coffee enemas to stimulate the liver and large intestine to excrete toxic elements from the body.

A 1990 *Lancet* journal evaluation of seven Gerson patients with extensive metastasised cancers at Maudsley and

Hammersmith Hospitals revealed that three of the patients (or 43 per cent) were in complete remission. Patients also reported a high degree of control over the treatment, low pain scores and little requirement for drugs (Lancet, 1990; 336: 667–8).

However, other evidence of the success of Gerson therapy is decidedly mixed. In one 1995 study of patients with melanoma, every one of the stage I and II, and 82 per cent of stage III, patients survived for five years. Among those undergoing conventional treatment, only 39 per cent with stage III disease survived for the same length of time (Altern Ther, 1995; 1: 29–37).

On the other hand, in a 1994 study of 22 patients, most of them with advanced disease unsuccessfully treated by chemotherapy, radiation and surgery, all died within an average of seven months. In yet another study of 18 patients, all but one died within nine months, even though less than half had advanced cancer when they arrived at the clinic and six had not undergone any conventional treatment (J Nat Med, 1994; 5: 745–6).

Urea

The notion that human urine has anticancer properties has been around at least since World War II. However, the idea has undergone a revival since the late 1950s, due to the work of Dr Evangelos D. Danopoulos, professor of medicine at the Medical School of Athens University and a specialist in optical oncology.

The active ingredient of urine is urea, which appears to disrupt the water system on the surface of cancer cells, which treat water differently from normal cells. The result of this is an interference of the metabolism necessary for uncontained metastasis or cancer spread.

In one of his many studies, Dr Danopoulos found that, of 46 patients with cancer in or around the eye who were treated with surgery and local urea injections, the treatment was successful in 100 per cent of cases. Ordinarily, conventional medicine almost never achieves a cure or remission (Ophthalmology, 1979; 179: 52–61).

In another study of nine patients with cancer of the mucous membrane of the eyelid, eight of the nine who were given local applications of urea were cured (Ophthalmology, 1979; 178:198–203).

Eighteen patients with liver cancer given urea survived for 26.5 months, five times longer than expected (Clin Oncol, 1981; 7: 281–9), as did 28 liver-cancer patients, 17 with cancer that had spread (Clin Oncol, 1975; 11: 341–50).

Most recently, Dr Danopoulos has replaced his injected urea with a powdered variety that is applied after scraping the cancerous tumour, then covered with an airtight dressing. With this technique, he has achieved a cure rate as high as 96 per cent (Lancet, 1974; *i*: 132).

Dr Danopoulos discovered that creatine monohydrate has similar anticancer properties to urea, but is broken down more slowly into creatinine. By using urea and creatine, Dr Danopoulos found that he could keep blood levels of urea nitrogen (which fights cancer) more consistent than with urea alone.

Antineoplastons

Dr Stanislaw Burzynski, on a grant from the National Cancer Institute, discovered a series of peptides (the building blocks of amino acids) that occur naturally in normal blood and urine and which inhibit cancer cell growth. This is tantamount to discovering a second immune system, or what Burzynski calls ‘the biochemical defence system'.

Unlike the usual immune system, which protects against ‘foreign invaders', this second system appears to guard against defective cells such as cancer by 'reprogramming' them to become normal again.

In Burzynski's view, this means that cancer is a disease of incorrect information processing, where cell reproduction goes haywire. The antineoplastons (anticancer compounds) which correct this faulty programming appear to be deficient in cancer patients. So Burzynski began to extract these substances from normal blood, tissue and urine, and reintroduced them into the blood of people with cancer.

Unlike many cancer pioneers, Burzynski has published many of his findings, which have been confirmed by independent laboratories. He also has a five-foot stack of records and studies that he has submitted to the US Food and Drug Administration in his attempts to get a 'new drug' licence, and he's passed the first phase of the FDA's clinical trials.

In the supporting study, the antineoplastons showed good results in patients with prostate cancer, bladder cancer and brain tumours—many had complete or partial remissions, and one-fifth survived at least five years. Many of his original patients, he claims, are healthy 13 years later (presentation at the Fifteenth International Congress of Chemotherapy, Turkey, 1988).

In another study for the FDA's second phase of trials, Dr Burzynski gave his antineoplastons to 20 patients with advanced astrocytoma (brain cancer). Four patients achieved a complete remission and two others, a partial remission. From the time the study began in 1990, two more patients have achieved partial and complete remission (R*ecent Advances in Chemotherapy*, Adam D, ed. Munich: Futuramed Publishers, 1992).

The FDA has licensed Burzynski to administer his treatment at his own clinic in Texas. Nevertheless, Burzynski has been the constant target of the cancer establishment and, at present, he is in the midst of defending himself against a criminal-action lawsuit by the American government.

Coley's toxins

At the end of the last century, Dr William Coley, a young surgeon, discovered that one patient with bone cancer had survived the cancer because he'd contracted an infection with *Streptococcus pyogenes*, which causes a life-threatening skin disease.

Coley spent the next 40 years refining what came to be known as Coley's toxins—using byproducts of *S. pyogenes* plus *Serratia marcescens*, which helps to intensify the activity of the other bugs. What appeared to happen was that the patient's temperature and pulse rapidly rose, sometimes by as much as six degrees. In the view of author and journalist Ralph Moss, the toxins work as a kind of heat therapy—"pushing the immune function to the limit of excitability".

Scientists at the US National Cancer Institute discovered that a lipopolysaccharide is contained in these bacterial toxins, which appear to stimulate the immune system to produce tumour necrosis factor, or TNF—which kills cancer.

Coley's daughter, who has spent many years tabulating and publishing her father's results—involving nearly 1000 cases—has found that 45 per cent of patients with inoperable tumours, and 50 per cent of those with tumours that were operable, were considered cured (that is, survived for at least five years). The best results were with giant-cell bone tumours and breast cancer; 79 per cent of inoperable bone-cancer patients and 87 per cent of the operable patients were cured and, of those with breast cancer, 65 per cent of inoperable and all of the operable patients were considered cured (Cancer Surv, 1989; 8: 713–23; Prog Clin Biol Res, 1983; 107: 687–96).

Herbs

Iscador is the proprietary name (by Weleda) of an extract containing European mistletoe, a semiparasitic plant, which was favoured as a cancer treatment by Rudolf Steiner in the 1920s. It's often used to shrink a tumour before and after surgery and radiotherapy, although it has been used on its own, by injection, to treat patients with cervical, ovarian, breast, stomach, lung and colon cancer.

Mistletoe contains several chemicals which seem to effectively fight cancer while boosting the immune system. But, unlike chemotherapy—which kills cells wholesale, good and bad—mistletoe stimulates killer white blood cells, which selectively terminate only the cancer cells.

In a trial at the Lucas Clinic Laboratory of Immunology in Arlesheim, Switzerland, a single injection of Iscador given to 20 breast cancer patients produced significant increases in both killer-cell immune responses and cell-inhibiting effects (Oncology, 1986: 43 [suppl 1]: 51–6).

Of 25 women with primary cancer of the ovary given Iscador after surgery, all of those with stage I and II disease, and a quarter of those with stage III (but none in stage IV), were still alive after five years.

These women were compared with similar ovarian-cancer patients treated with Cytoval, another cancer treatment. Even though the Iscador patients had poorer prognoses (20 of the women were in the advanced stages of III and IV), those given mistletoe lived an average of three times as long (16.2 months) as those given Cytoval (Onkologie, 1979; 2: 28–36).

More recently, the results of a 15-year trial showed that, when used as a com-

plementary treatment in patients with a variety of cancers, Iscador increased survival time by 40 per cent.

From 1973 to 1988, German researchers recruited 396 patients who had cancer of the lung, breast, rectum, colon or stomach, and matched them with 396 controls. They found a highly significant overall difference in survival time. The mistletoe-treated patients lived on for a mean of 4.23 years compared with 3.05 years for the controls. The results were particularly good for those who had breast cancer with axillary metastases, but less good for those with non-small-cell bronchogenic cancer.

Another recent mistletoe study showed no benefit at all. But the researchers say this may have been because they used very low doses of a preparation that included only one component of mistletoe and not the whole plant extract (Alt Ther Health Med, 2001; 7: 57–78).

It should be noted that Iscador is potentially toxic with serious side-effects when too much is taken. Never attempt to make your own kitchen extract, since both leaves and berries can be poisonous.

Besides Iscador, *Echinacea* has shown evidence of indirect cancer-fighting activity because of its long-recognised ability to boost the immune system. (Z)-1,8-Pentadecadiene, a fat-soluble component of *Echinacea angustifolia* and *E. pallida*, has been shown in the laboratory to have significant cancer-killing ability (J Med Chem, 1972; 15: 619–23).

Burdock root has antimutation factors and other anticancer effects (Acta Phys Chem, 1964; 10: 91–3; Tumori, 1966; 52: 173). Burdock is one of the main ingredients in two well-known herbal anticancer remedies: Hoxsey's herbs and Essiac. Other herbs in Essiac are Indian rhubarb, sheep sorrell and slippery elm, whereas Hoxsey's mix also includes barberry bark, buckthorn, prickly ash, poke root and *Stillingia*. Barberry root, prickly ash and *Stillingia* have shown antitumour activities, but only in animal tests, so such findings may not apply to humans (Pelton R, Overholser L, *Cancer Therapy, New York: Simon and Schuster, 1994*).

In Chinese medicine, the herb *Epimedium grandiflorum*, which contains glycoside icariin, can increase natural-killer (NK)-cell lymph-kine-activated killer-cell (LAK) activity, and stimulate the production of TNF in both tumour patients and healthy donors (Arzneim Forsch, 1995; 45: 910–3).

Other Chinese herbs with some clinical success are *Actinidia, Baohuoside-1, Mylabris, Liu Wei Di Huang* or *Jin Gui Shen Qi* and *Buzhong Yiqi* (Moss R, *Cancer Therapy*, Equinox Press, 1995).

In test-tube studies, the Japanese *Kampo* formula *sho-saiko-to* (or TJ-9), comprising *Bupleurum falcatum, Pinellia tuberifera, Scutellaria baicalensis, Zizyphus jujuba, Panax ginseng, Glycyrrhiza glabra* and *Zingiber officinale,* has shown antitumour effects.

This was supported by a five-year study by the Osaka City University Medical School showing that *sho-saiko-to* can help prevent liver cancer. The study followed 260 patients with cirrhosis of the liver. All of the patients continued their standard chemotherapy drugs, but half were also given the *Kampo* formula. The survival rate for the herbal group was 75 per cent compared with 61 per cent in the controls (Cancer, 1995; 76: 743–9)

Ninfin-yoh-eito extract granules have also been demonstrated to improve the quality of life in lung-cancer patients after chemotherapy (Ther Res, 1994; 15: 487–500).

Homoeopathy

Homoeopathic practitioners have generally found success with individual therapies for controlling symptoms or the results of more aggressive treatments (Br Homeop J, 1993; 82: 179–85), especially in leukaemia (Br Homeop J, 1986; 75: 96–101).

Furthermore, in some experimental trials, it was revealed that the ionic balance in cancer cells, which regulates cell differentiation, is disturbed. Homoeopaths have sought to reestablish ionic equilibrium by adminstering biochemical salts in small quantities.

In laboratory experiments, *Kali phos* (30x), *Calc phos* (30x) and *Ferrum phos* (30x) have all shown antitumour effects. In 20 women with cervical cancer, treated with *Kali mur, Ferrum phos, Calc phos* and *Silicea*, three patients achieved a remarkable regression of their cancer and seven, a slight regression (Br Homeop J, 1983; 72: 99–103).

Other laboratory studies have shown that the proprietary homoeopathic extract Ukrain (derived from *Chelidonium*) has a

Music therapy aids relaxation

The rhythm of the heart will synchronise with the rhythm of relaxing music in patients trained in relaxation therapy, according to a small, randomised, pilot study (Forsch Komplementärmed, 1999; 6: 135–41).

In the study, 28 patients with chronic cancer pain, but in a stable phase of the disease, were given a 14-day training in relaxation therapy. This included 30 minutes of lullaby-like, rhythmically dominated music, which had a gradually decreasing tempo. The control group received no such training.

In this study, researchers found that the patients trained in relaxation therapy showed a remarkable ability to synchronise their heartbeats with the music, which helped send them to sleep and reduced their reliance on painkillers.

marked destructive effect on tumour cells (J Chemother, 1996; 8:144–6).

Homeopathic treatment has also been proved to improve quality of life for cancer patients.

Researchers at the Bristol Homeopathic Hospital studied 100 consecutive patients, referred for complementary care, to assess the impact of homoeopathy on mood and symptom control. Among these patients, 39 had metastatic disease and nine had refused conventional treatment.

At the initial consultation, each patient was asked to identify up to three symptoms that they felt were a significant problem for them. Individual homoeopathic remedies were then prescribed on this basis. Progress was assessed after six consultations.

The most common symptoms were pain, fatigue and hot flushes. Homoeopathy was significantly helpful for fatigue and hot flushes, but less so for pain. A few patients experienced a temporary worsening of symptoms, which improved on stopping the remedy.

The dropout rate was high—only 52 patients completed the study. However, 75 per cent of these rated homoeopathy as helpful, suggesting that this therapy does have a contribution to make in the care of cancer patients (Palliat Med, 2002; 16: 227–33).

Hydrogen-peroxide therapy

Since the 60s, it's been known that, unlike regular cells, which use oxygen in their chemical reactions, the chemical reaction of cancer cells is more primitive, employing fermentation in their metabolic processes without oxygen. What this means is that cancer grows best in an environment that lacks oxygen.

Although we've all heard of the dangers of free radicals in the body, the story is more complicated than that. A free radical is simply an atom or molecule that has one or more unpaired ('free') electrons, which makes it more unstable than an ordinary molecule.

Although these chemical reactions differ widely, some free radical-containing molecules are highly reactive, attempting to pair with whatever cells they are next to, thus setting off a chain reaction of free radicals. This has the effect of damaging the protein of cell membranes, making them leaky, and eventually causing complete cell breakdown and a number of diseases.

However, our bodies also make positive use of free radicals to combat disease. For instance, we produce free radicals in the form of hydrogen peroxide to surround and destroy invading organisms. Hydrogen peroxide also appears to stimulate NK cells of the immune system (J Interferon Res, 1983; 3: 143–51).

Although there are something like 2500 scientific references on the role of hydrogen peroxide in preventing disease, research on its role in treating cancer is still being carried out by the International Bio-Oxidative Medicine Foundation in Dallas, founded by Dr Charles H. Farr, a leading proponent of hydrogen-peroxide therapy.

Studies in the 1950s on rats reportedly demonstrated a complete disappearance of the tumours within two months (Twenty-second Congress of the EDTA—European Renal Association, 1985: 22: 1233–7). Nevertheless, Farr himself admits that, in humans, when used alone on lymphomas and colon cancer, "it has an antitumour effect . . . but response is slow and changes are subtle".

However, hydrogen peroxide has worked very well with radiation, enhancing its

activity while sparing the tissue from its adverse effects. Studies have shown that the higher the level of oxygen in tumour cells, the more effective the radiotherapy treatment.

In one study, 190 patients were selected with such advanced cancer that they were considered beyond conventional treatment. In fact, less than a tenth of them were expected to survive for more than a year. After using hydrogen peroxide with radiation, 77 per cent were alive after a year, two-thirds after two years, nearly half after three years and a quarter after five years. The best responders had cancer of the cervix, bladder, head or neck (Am J Surg, 1964; 108: 621–9).

Farr finds that the most successful treatment combines hydrogen-peroxide therapy and high-dose vitamin C with chelation, which removes the toxins of cancer from the body.

Govallo immune therapy: VG-1000

For many years, Russian immunologist Dr Valentin Govallo and his colleagues at the Immunology Laboratory in Moscow attempted to fight cancer by boosting the patient's immune system until they realised it just wasn't enough. In the 1970s, Govallo discovered substances in the human placenta that protect the fetus from attack and rejection by the mother's immune system—an 'immunological shield'. This was similar to the immunological shield of tumours, Govallo realised, which can turn off the host's immune system—as he puts it, like a "burglar who first turns off the burglar alarm before he goes about stealing things".

Govallo and his colleagues went on to develop a way to suppress the immune system of the tumour through a 'vaccine' they call 'VG-1000', which uses tissue from placentas taken after live, healthy human births. According to Govallo, if you suppress tumour immunity, "even a dying patient can overcome the tumour". Dr Govallo discovered that an extract of human chorionic villi when added to white blood cells "effectively blocks all reactions of cell immunity" (Cancer Chron, 1994; 5: 3).

Since 1974, Govallo has treated around 100 patients and has hard evidence that the 10-year survival in advanced cancer is around 60 per cent (Govallo V, *The Immunology of Pregnancy and Cancer*). Of 45 patients with advanced cancer treated in 1974, 29 are still alive—a survival rate of 64.4 per cent.

He says that VG-1000 is most effective against breast, lung, colon and kidney cancers, malignant melanoma and brain tumours.

Currently, Dr John Clement, of the Immunology Researching Center in Freeport, The Bahamas, and medical historian Harris Coulter have developed a protocol for the scientific evaluation of VG-1000 in a clinical trial which began in September 1996. Coulter emphasises that VG-1000, like other immune therapies, works best in patients who have not been extensively treated with radiation or chemotherapy and in those who have undergone surgery. Patients with metastastic liver cancer should not undergo this treatment; in one instance, a patient with this disease developed reactive hepatitis.

Essiac

The story of Essiac is one of the most potent myths in modern medicine. In 1922, an elderly Canadian nurse, René Caisse, who had devoted her life to tending the sick, stumbles across a woman whose breast cancer was, she claimed, healed by an Ojibway Indian medicine man. The cure was a simple herbal tea made of sheep's sorrel (*Rumex acetosella*), burdock root (*Arctium lappa*), slippery elm (*Ulmus rubra*) and Turkish rhubarb root (*Rheum palmatum*). She writes the formula down and thinks no more about it until her aunt is stricken with terminal cancer two years later. At this point, she administers the tea to her relative who, against all the odds, goes on to live another 20 years.

Caisse begins to experiment with the tea and over the years, through treating hundreds of patients, perfects the formula, which she brews in her own kitchen. Eventually, the formula becomes known as Essiac—her surname spelled backwards.

Several turns in the story add drama and intrigue. Caisse either took the secret of her exact formula to her grave in 1978 or she only divulged the formula to a couple of people—this part of the story is under dispute.

In 1938, Essiac came within three votes of being legalised by the Canadian parliament. Its defeat, said to be heavily

influenced by the drug industry, is believed by some to have been the most costly mistake in the history of human health.

Caisse wanted Essiac to be made available for safe, immediate use on cancer patients, and not put through lengthy, often circular, lab testing before being allowed on the market. The position she maintained until her death was that, before she would divulge the secret formula and agree to its being tested, the Canadian authorities had to admit that it works.

The authorities' view was that they could give no such endorsement until they tested it.

In this single conflict lies one of the biggest stumbling blocks to devising and conducting scientific trials of alternative medicine. Medical trials must begin with a credible hypothesis—or so we believe. What we rarely stop to consider is that what is 'credible' is almost totally a cultural construct. To a scientist, the idea that these four simple ingredients could cure one of the most complex diseases known today is not believable. To those who have been healed while drinking the brew, it is not only believable, it is truth.

Today, there are practitioners fighting over Caisse's formula. In particular, Dr Gary L. Glum (author of *Calling of an Angel*, Los Angeles: Silent Walker, 1988), and Dr Charles Brusch and broadcaster Elaine Alexander (partners in the FlorEssence company) have engaged in a long-running battle to prove that they each possess the true Essiac formula.

Dr Glum claims that his formula comes straight from a woman whom Caisse cured, and has been verified by Caisse's best friend and sometime assistant Mary McPherson. According to Glum, he published the formula in his book so that as many people as possible could have a chance to help themselves.

Dr Brusch claims that his formula was given to him by Caisse and uses the basis of the original formula, but includes other herbs to increase the effectiveness of the action of the original four.

In truth, René Caisse was always refining her own formula, so who's to say what the 'true' formula may have been had she lived another 10 years. Today, many modern practitioners experiment with their own formulas as well. **PROOF!** panellist Dr Patrick Kingsley is one of these, though he admits that, like so many other practitioners in this country, he is still struggling with some of Essiac's problems.

"I am aware that there have been disagreements, particularly in America and Canada, over what the exact formula is. As a practitioner I felt, at first, cautious about using Essiac for that reason. But I have come to place less importance on using the exact formula. I administer it in a tincture form and now feel confident to add other ingredients, such as colloidal silver, to the basic formula. I must stress, however, that I am still experimenting to find the best combination of ingredients."

In Dr Kingsley's opinion, it is difficult to say which cancers respond best to Essiac. "Perhaps the best you can do is give the formula a reasonable trial. But the fact is that we just don't understand why some patients do well and some don't. There is more to life than any of us will ever understand. Many factors contribute to the course of illness. When someone's life is at an end for whatever reason, there is nothing you or I can do to change that."

That's not simply a fatalistic view, but an acknowledgement that there are things in the world more powerful than double-blind trials, the anecdotal experience of doctors and patients—and even the mighty Essiac. We know a great deal about the individual ingredients of Essiac and how they act on the body. Rhubarb root, burdock root and slippery elm are all potent blood purifiers, and sheep's sorrel is the ingredient believed to target cancer cells. Burdock root is also known to have antimutation factors and other anticancer effects (Acta Phys Chem, 1964; 10: 91–3; Tumori, 1966; 52: 173). Although powerful, these ingredients do not appear to produce any harmful side-effects.

Although anyone could, in theory, brew up their own batch of Essiac, there are problems with the selection of ingredients. They must be organic, and some practitioners also believe that the time the individual herbs are harvested plays an important role, as only at certain times in their growth cycle will they be at full potency. Anyone using a pre-prepared formula also needs to be wary as there are thought to be some bogus versions available which use curly dock rather than sheep's sorrel—which doesn't work.

Meditation raises hopes of remission

Meditation may help patients recover from cancer, according to the latest case report. A 64-year-old psychologist developed cancer of the rectum. Refusing surgery or other forms of conventional treatment, he instead pursued a course of intensive meditation at home for one to two hours a day.

Within two weeks, his condition had improved; by six weeks, he was able to stop having enemas to relieve the partial obstruction of his colon. He continued to meditate three hours every day in 'divided doses' and, one year after beginning treatment, he was totally free of symptoms (Townsend Lett Docs, 1999; 186: 30).

For this patient, as with so many others, dedication, a strictly positive attitude, and the support of caregivers and physicians who believed in the possibility of recovery were the essential ingredients leading to a cure.

The *Canadian Journal of Herbalism* (1991; 12) in reviewing the case for Essiac concluded that: "Essiac is not a hoax or a fraud. To hear experiences described by the patients themselves cannot help but convince observers that dramatic and beneficial changes definitely took place in many, but not all, of those who received the remedy. Although the focus on Essiac has been as a cancer treatment, it alleviated and sometimes cured many chronic and degenerative conditions because it cleanses the blood as well as the liver and strengthens the immune system."

Dr Kingsley agrees: "The emphasis on Essiac as a cancer cure may be somewhat misleading. I take it myself to improve my chances of health and longevity, and would suggest that any chronic condition, such as multiple sclerosis or arthritis, may benefit from its use."

The Canadian journal also noted, though, that because of the high oxalic acid content of two of the herbs, the remedy should be considered unsafe for anyone with kidney ailments or arthritic conditions.

It is probably as wrong to call Essiac a cure for all cancers—as wrong as it is to paint René Caisse as some kind of saint. Anecdotally, we know that some people will respond to the formula.

Looking at the bigger picture of cancer treatment, we know that the curative potential of so many conventional treatments remains unproven, and the long-term prognosis for so many cancer patients can be very poor.

Even if Essiac only helps a few to survive longer and in better health than they might otherwise have done, it should not be discounted as a potential treatment.

The Nutri Centre in London (020 7436 5122) recommends Essiac from the Resperin Corporation. The non-profit-making organisation Wellspring Herbal can also supply a version of Essiac (01239 654 458).

Shark cartilage

Shark cartilage is the latest cure from the fringes of the alternative health world. Much of the existing literature on the product tells the same story: first, how in 1975 scientists at Harvard Medical School isolated something in cartilage which prevents the growth of tiny blood vessels which feed the tumour (angiogenesis) and could inhibit capillary growth by 75 per cent (J Exp Med, 1975; 141: 427–39).

The following year, the same scientists discovered that cartilage contained several different proteins and that the major one strongly inhibited the activity of protein-digesting enzymes (Sci Am, 1976; 234: 58–64). A professor at the Massachusetts Institute of Technology (MIT) suggested that cartilage from calves' shoulder blades would be suitable (Science, 1976; 193: 70–2). But because calves' bodies contain only minute quantities of cartilage, a new source was needed, which is where sharks, whose entire internal structure is of cartilage, came in.

Science met marketing at this point. "Sharks don't get cancer," we were told; and "Now one of man's oldest and deadliest enemies holds the key to overcoming one of modern man's most dreaded enemies." Testimonies were written and an industry was born. But where is the evidence?

Claims for shark cartilage are based mostly on in-vitro studies using chicken eggs as a model. Others are based on

animal studies (Proc Natl Acad Sci USA, 1980; 77: 4331–5). Still others are based on studies of sharks which have been injected with cancerous cells to see if they would develop cancer—and some did while some didn't (J Pharm Sci, 1977; 66: 757–8).

Angiogenesis does not cure cancer. Even at very high concentrations in test tubes, MIT scientists concluded that the cartilage "does not interfere with the growth of the tumour cellpopulation directly". Instead, it simply prevents tumour growth by slowing the formation of new blood vessels (Proc Natl Acad Sci USA, 1980; 77: 4331–5).

Judah Foulker's work on angiogenesis is often quoted as proof that shark cartilage works. But even Professor Foulker is clear that "in-vitro assays do not accurately predict antiangiogenic efficacy in vivo"—in other words, what happens in the test tube does not necessarily reflect what happens in the body (DeVita VT *et al*., eds, *Cancer Principles & Practice of Oncology*, 5th edn, Chapter 64, Philadelphia: Lippincott-Raven, 1997).

Books like I. William Lane's *Sharks Don't Get Cancer* can be frustrating for those trying to discover the true picture. For instance, Lane quotes several small, but apparently impressive, studies supporting the efficacy of shark cartilage, but inexplicably, none of these are to be found in the references at the back of the book.

While the animal studies at least used controls (to allow making direct comparisons between those treated and those not), human studies to date amount to nothing more than case reports. For instance, Lane reports a 1992 study in Mexico by Roscoe van Zandt in which eight women with advanced breast tumours all showed improvement after receiving shark cartilage. Similarly, of two patients in Panama with terminal cancer, one with less severe liver cancer went into remission, but the fate of the other with lung cancer which had spread to the bone and brain, was more vague.

Case studies from elsewhere in the world, including unpublished data from Lane on the efficacy of anal administration, tell a similar story. It is too easy to claim a 50 per cent success rate when a study has only a handful of people in it. But based on these results, American TV seized on shark cartilage with enthusiasm.

The well-respected programme *60 Minutes* followed 27 patients in Cuba and the results, again unpublished, were even more vague: cessation of pain with improvements in appetite, attitude and quality of life. Nowhere does it say how many died and how long after treatment.

Dr Lane is not a medical doctor—his PhD is in agricultural biochemistry. His company produces some of the leading shark-cartilage products on the market, so he is far from being an impartial observer. Because shark cartilage is not a drug, it cannot be regulated, and MIT has found several commercially available products with no significant potency.

Most of the supplements sold over the counter (OTC) are for oral use whereas most of the clinical studies have involved injecting the cartilage. Human studies have been performed using both oral and anal administration.

While it is clear that there may be something in shark cartilage which can help fight cancer, there is no evidence that the OTC products in the form of tablets, pessaries or milkshakes provide what has now been named 'cartilage-derived inhibitor' (CDI) in any quantity or form which will deliver what it promises.

The manufacturer of one leading brand of shark cartilage, Cartilage Technologies Inc (CTI), discontinued its sponsorship of an FDA-supervised clinical trial to evaluate shark cartilage as a treatment for cancer. A spokesman for CTI said the company was "unable to find meaningful scientific data to support further investment in pursuing drug status for shark cartilage" (Townsend Lett Docs, 1997; April: 26). CTI went on to state that it "does not promote its product as a cancer cure and finds it difficult to understand any company that would market a dietary supplement for the treatment of cancer, especially when there is no basis".

Hulda Clark's antiparasite regime

Many alternative cancer regimes concentrate on changes in lifestyle and environment, and the process of detoxifying the body. It is not unusual for practitioners and patients who practise such regimes to report complete regression of the cancer in a relatively short time.

Perhaps the most vociferous among such practitioners is Dr Hulda Clark, who

holds doctorates in physiology and naturopathy. Dr Clark's book, which touts its supposed success in the title, *The Cure for All Cancers* (San Diego, CA: ProMotion Publishing, 1993), proposes that all cancers are caused by a lethal combination of the intestinal fluke *Fasciolopsis buskii* and toxic solvents, such as benzene and toluene (given off by everyday household cleaners, perfumes and plastics), in the body. In Dr Clark's view, these toxic solvents destroy the tough outer shell of the parasites' egg sac, freeing it to migrate to the liver, thymus, prostate, uterus, breast and other organs, where it then multiplies. When this happens, the flukes' overgrowth becomes so enormous that it predisposes the human host to cancer, autoimmune disease and a number of other illnesses.

To the majority of the medical establishment, this view is outrageous. Nevertheless, a growing body of research is exposing the damage that chemicals in our environment can do to the body, and more and more doctors are emphatic in their belief that parasites are one of the most underdiagnosed causes of human diseases (**WDDTY**, vol 10 no 3).

In her book, Dr Clark cites 138 case histories which show that her straightforward regime—which involves killing the parasites, removing the toxins from the immediate environment and rebuilding the body—can completely cure cancers which have been pronounced incurable. What's more, in complete contrast to conventional cancer treatments, the regime appears to have no adverse effects.

With case histories, it's always difficult to know how accurately they reflect the real cure rate. According to Dr Clark, 35 of her 138 patients didn't follow the regime fully for one reason or another. These individuals didn't experience a 'cure'. However, this leaves 103 who did and were, in Dr Clark's view, cured of their cancers. If she is to be believed on the evidence presented, that's a cure rate of nearly 75 per cent.

Dr Clark's regime is deceptively simple and can be implemented by anyone at any time without the need for consulting a medical doctor. It doesn't appear to interact with any other medications. In fact, the self-help aspect of the regime is one reason why it may enrage conventional practitioners. Indeed, Dr Clark believes that the medical establishment has far too keen an interest in keeping information about illness and wellness shrouded in mystery, in order to maintain their status and line their pockets.

Dr Clark believes that killing parasites in the body is the first step towards regaining health. Unlike many herbalists, she does not advocate mega-mixtures of exotic herbs. Instead, the combination is simple: black walnut green hulls [husks] (*Juglans nigra*) to kill adult parasites and those in developmental stages; wormwood (*Artemisia absynthium*) to aid the elimination of parasites from the body; and cloves (*Eugenia caryphyllus*), the only herb, in her view, which kills eggs in the body. Together, these herbs supposedly can rid the body of more than 100 parasites without any unpleasant symptoms such as headache or nausea.

Dr Clark's regime is multifaceted and includes cleaning up a person’s environment, removing all solvents and using an electronic 'zapper' not dissimilar to that used in bioresonance therapy.

However, since the first step of the programme is to kill the parasites, it's worth perusing the evidence for the herbals she recommends.

Black walnut green hulls have been used extensively by Asians and some American Indian tribes to kill parasites.The Chinese use it to kill tapeworm, and external applications are reputed to kill ringworm.

Scientific proof that it works, however, is thin on the ground. Black walnut has a high tannin content, which may be partly responsible for its antiparasitic properties, although other constituents, such as juglandin, juglone and juglandic acid, may also be involved. Several of its components—including ellagic acid, juglone, several strong and weak acids and alkaloids—have been shown, albeit in animal studies, to have anticancer properties (J Pharm Sci, 1968; 57: 1674–7).

Black walnut has been used to balance sugar levels, and burn up excessive toxins and fatty materials. It also helps to promote bowel regularity, which may also form part of its antiparasitic properties.

Wormwood, despite its long history of folk use (Med Hypoth, 1987; 23: 187–93), suffers a similar lack of research. It is a bitter carminative herb, which stimulates and

invigorates the whole digestive process. It also has a role to play in healing fever and infections. There is evidence that it can support and maintain healthy liver function (Gen Pharmacol, 1995; 26: 309–15).

Cloves also have a long folk use. Mothers used to lace baked hams with cloves to preserve them (and perhaps, unknowingly, provided some protection against any parasites in the meat).

The main active ingredient of cloves is eugenol—a powerful antiseptic, antiviral and bactericide. There is no documented evidence that it kills worm eggs, however.

The lack of research into possible herbal cures is disappointing but, given the bigger picture of cancer research, it's not entirely surprising. In a severely compromised body, only herbs which support the return to healthy function should be used, and the herbs selected by Hulda Clark at the very least seem to fulfil this criteria.

Interestingly, Dr Clark's views are gaining support from a handful of scientists. Dr Dietrich K. Klinghardt of Albuquerque, New Mexico, and his co-investigator Louisa L. Williams have spent considerable time investigating the impact of solvents and toxins such as dental amalgam on the body: "In our clinical research, we have found Dr Clark's solvent/parasite theory to be valid," they say. "Parasites usually present through kinesiological testing two to three weeks after the patient has avoided solvents."

Both doctors have experience of the futility of treating *Candida albicans* in patients who have mercury fillings. However, they've found in the course of their research that once the fillings are removed, eliminating *Candida* and other opportunistic organisms from the body is far easier if Dr Clarks' programme is also followed (Townsend Lett Docs, 1997; 163: 64–9).

Dr Clark's theory of parasites and pollution may prove to be another major breakthrough in the complex search for cancer cures. However, if you wish to follow this programme, it would be wiser to work in partnership with a qualified professional.

Pycnogenol

Although the research is preliminary, laboratory research into Pycnogenol, a natural extract of the French maritime pine tree (*Pinus maritima*) indigenous to Bordeaux, suggests that it can reduce the risks of skin disorders caused by ultraviolet rays of the sun.

Pycnogenol, which contains some 40 water-soluble flavonoids and nutrients, can improve circulation and maintain skin elasticity and smoothness.

In a report delivered at the Experimental Biology '99 meeting in Washington, DC, Lester Packer, a professor from the University of California at Berkeley, presented findings to a group of 10,000 scientists who meet every year to examine the health benefits of antioxidants.

According to Packer's research into human keratinocyte (keratin-producing skin cell) cell lines, Pycnogenol has an inhibitory effect on the expression of the genes that control cell proliferation and the stress response.

In another study, Pycnogenol was also found to affect gene expression controlled by NF-kB, a key factor in inflammation. In other words, at first glance, it would appear that Pycnogenol may be able to prevent free radical damage by decreasing or even 'turning off' genes that are damaging.

Although encouraging, it must be stressed that this research is preliminary and a far cry from constituting evidence that Pycnogenol can 'cure' skin cancer. Nevertheless, watch this space as scientists begin testing on actual subjects, not just cell lines.

Vitamin A, or carotenoid, supplements do have solid evidence for protecting you and reducing your chances of burning as well as offering protection against the damaging actions of free radicals.

One German study found that patients with fair skin who took either 50 mg of carotenoids over six weeks (or 25 mg over 12 weeks) were protected from UV damage (Institute of Experimental Dermatology, University of Witten-Herdecke, Rhine-Westphalia, FRG, 1996).

Another way to avoid sunburn is to eat a low-fat diet. In one study, people following a normal, high-fat diet were found to be nearly five times as likely to develop skin cancer as someone following a controlled diet. The risk was reduced once the patients switched to a low-fat regime (N Engl J Med, 1994; 330: 1272–5).

Finally, regularly taking supplements of vitamins E and C can protect against sunburn. In one study, patients who were

taking a daily regimen of 2 g of vitamin C and 1000 IU of vitamin E were less likely to burn than patients not taking supplements. Nevertheless, it is worth noting that neither supplement worked on its own, but only in combination (J Am Acad Dermatol, 1998; 38: 45–8).

PC-Spes

The Chinese herbal mixture taken by an increasing number of prostate cancer patients (see Chapter 2, pages 24–27) appears to work in part by inducing tumour cells to die, say US researchers.

PC-Spes is a traditional Chinese medicine consisting of eight herbs. Since it first became commercially available in 1996, scientists have been trying to understand more about how it works. In this latest study, researchers from Columbia University in New York and Henri Mondor Hospital in France measured the effects of PC-Spes on three different cancer cell lines from human prostate cancer victims and from human tumours implanted in mice.

Two experiments, using in-vitro and animal models, showed that PC-Spes caused cancer-cell death and had oestrogen-like effects. From this, the researchers went on to test the mixture on 69 men who had prostate cancer. The men were categorised into three groups: 43 had received prior therapy and were considered to have hormone-sensitive cancer; 22 were thought to have hormone-resistant disease; and four were receiving PC-Spes as their primary therapy.

The men took 320-mg capsules of the mixture three times daily. Every group showed a decline in prostate-specific antigen (PSA), a biochemical marker for prostate cancer. Of those with hormone-sensitive cancer, decreased PSA was observed in 82 per cent after two months, and this number was maintained after 12 months. In the men with hormone-resistant cancer, PSA decreased in 90 per cent after two months and remained lower after six months in 74 per cent.

Among the four men who were already taking PC-Spes as treatment, two showed a drop in PSA levels of more than 50 per cent after two months.

The herbal mixture produced adverse effects (similar to those of conventional hormone-related therapies) in some men: 43 per cent of all the men reported swollen tender breasts, 7 per cent had hot flushes and 2 per cent had clots in their veins. This lattermost effect is especially worrying as it could mean an increased risk of stroke and heart attack among some users.

However, the results of the study are encouraging for those with hormone-resistant prostate cancer, and suggest that the herbal mixture may work in other, non-oestrogenic ways to kill cancer cells (J Urol, 2000; 164: 1229–34).

Nevertheless, two recent reports of bleeding disorders associated with PC-Spes suggest a new potential adverse effect associated with the remedy, although the evidence is confusing.

In one, a man with prostate cancer had been self-medicating with the remedy at twice the recommended dose. After one month, he was admitted to hospital with spontaneous uncontrolled bleeding at several sites on his body (N Engl J Med, 2001; 345: 1213–4).

In the other, researchers at the University of Toronto reported on a man with prostate cancer who developed disseminated intravascular coagulation (DIC, or bloodclots throughout the body) while taking PC-Spes. This prompted a literature search for other cases of bleeding disorders associated with the eight-herb combination. The herbal has an adverse-effect profile similar to that of diethylstilboestrol (DES, the anti-miscarriage drug of the 1950s) with a 5 per cent risk of thromboembolic events, though theirs was the first report of DIC (Can J Urol, 2001; 8: 1326–9).

While these two reports seem contradictory, they may make more sense if you look at the side-effects of the Pill, which can cause a variety of bleeding and clotting disorders in women. These case reports highlight that, while PC-Spes may be useful for prostate cancer, the research into this herbal remedy is still in its infancy, and more data are needed to confirm all possible adverse effects.

Green tea

While all teas possess health-giving properties, green tea reigns supreme as perhaps the most healthful. Green tea is antioxidant, antitumour and anticancer, a stimulant, anticholesterolaemic, immunostimulant, antimicrobial and anticariogenic

A herbal, nutritious cure

George Lewith is a homoeopath, acupuncturist and expert in nutritional and herbal medicine. He works at the University of Southampton and in London.

Here is his story of a remarkable response in a patient with terminal cancer.

"Mr HB, aged 76, visited me in February 1996 with a clear diagnosis of primary pancreatic adenocarcinoma with secondary or metastatic growth to both the peritoneum [the membranous lining of the abdomen and organs] and the liver. He presented to his GP just before Christmas 1995 with weight loss and tiredness.

"On examination, he was shown to have a mass, probably a tumour, in his upper abdomen and a provisional diagnosis of cancer was made. Ultrasound scans suggested both liver and peritoneal secondaries, and this was confirmed through an exploratory operation when biopsies were taken and the exact nature of the tumour defined as an adenocarcinoma.

"The prognosis for this particular condition is poor; one would expect patients to continue to lose weight and develop increasing local tumour growth in association with symptoms such as nausea, increasing weight loss and abdominal pain as well as symptoms caused by local tumour growth. You would also expect the tumour to possibly obstruct the free flow of faecal material through the bowels.

"Because of the metastatic, or secondary, growth, surgery was impractical, and after some discussion with his GP and oncologist, the patient decided that he did not wish to undergo treatment either with anticancer drugs or with radiotherapy, as these would be very likely to create serious adverse reactions, and the evidence for their effectiveness in this kind of cancer is limited.

"He therefore came to see me in order to discuss the possibility of using a variety of complementary medical techniques to manage his problem. After some discussion, both he and his GP made it quite clear that they wished to pursue a complementary approach to cancer.

"Having considered the pros and cons of conventional anticancer treatment, we proceeded to utilise a four-pronged attack.

"The first was to provide advice on diet. A diet high in wholefoods and fresh organic food, and low in animal fats and processed foods, began immediately. This was associated with high doses of nutritional supplements—specifically, vitamin C, zinc, selenium and vitamin B complex.

"Simultaneously, a number of homoeopathic mixtures were provided, some taken orally and some by injection. The oral medications were in the form of homoeopathic complexes targeted largely at the liver and pancreas, as well as homoeopathic doses of shark's cartilage.

"The injectable preparation Iscador was also used in a planned and coherent manner. The strength of the Iscador was progressively increased until a maintenance dose was ascertained, based on the clinical response after three months.

"Some evidence also exists for the use of high dosages of fish oils in the prevention of pancreatic cancer, although there is little hard information as to whether fish oils may treat an already existing malignancy. The patient was also placed on a high dose of fish-oil supplements.

"Much to the surprise of the patient's GP, myself and his clinical oncologist, he has continued to improve over the last eight months and has put on the best part of a stone [14 lb], and it appears, on examination, that his tumour has diminished substantially.

"To all intents and purposes, he is clinically well; this is quite remarkable when one considers that his prognosis based on the original diagnosis would have perhaps given him a life expectancy of between three and six months.

"Clinically, he has made a remarkable recovery."

(resists tooth decay). A range of constituents is responsible for its therapeutic effects, but among the most active are its polyphenols and catechins.

Tea polyphenols in general, and epigallocatechin-3-gallate (EGCG) in particular, have been shown in animal studies to be powerful antioxidants (Cancer Res, 1992; 52: 4050–2; Food Chem Toxicol, 1995; 33: 27–30). In the lab, EGCG enhanced immunity and reduced free-radical damage to human DNA (Int J Immunopharmacol, 1992; 14: 1399–407; Carcinogenesis, 2001; 22: 1189–93).

Catechins, too, are antioxidants, but also exhibit killing activity against bacteria such as *Vibrio cholerae, Salmonella typhimurium* and *S. typhi*, common causes of diarrhoea; protozoa; and viruses, including influenza virus and HIV (J Commun Dis, 1994; 26: 147–50; Int J Zoonoses, 1982; 9: 126–31; Antiviral Res, 1993; 21: 289–99; Biochemistry, 1990; 29: 2841–5).

Among the most celebrated actions of green tea are its supposed anticancer properties. Tea polyphenols inhibit tumour development (Cancer Lett, 1993; 69: 15–9) and reduce the occurrence of chromosomal mutations (Mutat Res, 1993; 286: 221–32).

EGCG has been shown in laboratory studies to directly bind to certain carcinogens (Prev Med, 1992; 21: 370–6). In mice, it has prevented the spread of experimental and spontaneous lung tumours (Cancer Lett, 1992; 65: 51–4). Scientists have also found that EGCG may inhibit angiogenesis (growth of new blood vessels) and, thus, the growth of some tumours (Nature, 1999; 398: 381). It is speculated that green tea could one day prove useful against angiogenesis-dependent diseases like cancer and diabetic retinopathy.

Japanese researchers have found that breast cancer patients who regularly drink green tea may have a lower recurrence rate of cancer than those who do not.

The 10-year study collected information on lifestyle by questionnaire from 1160 new surgical cases of invasive breast cancer. During follow-up, 133 patients (12 per cent) suffered a recurrence of breast cancer. A decreased risk for recurrence (adjusted for the stage of cancer at diagnosis) correlated with drinking three or more cups of green tea daily. Women whose cancer was in an early stage (stage I) had the greatest reduction in recurrence risk. Stage II disease also showed some reduction, but none was seen in the more advanced-stage cancers (Cancer Lett, 2001; 167: 175–82).

Nevertheless, green tea's cancer-protective properties are still mostly theoretical. A study of green-tea consumption and cancer in Hiroshima and Nagasaki, Japan, involving 38,540 men and women, found no protective effects of regular green-tea consumption, even at five or more times a day (Cancer Causes Control, 2001; 12: 501–8).

So, how can such a miracle brew warrant our caution? Even though green tea is low in caffeine, it is still possible to overdo it and get the same jittery buzz, upset stomach and wakefulness as from coffee—albeit with larger amounts. The average cup of brewed coffee has about 135 mg of caffeine (instant coffee has around 95 mg) whereas the average cup of tea (black or green) contains only around 50 mg of caffeine.

In one study of adults with solid tumours, the authors noted an upper limit of around nine (300-mL) cups of green tea a day before adverse neurological and gastrointestinal effects related to caffeine became apparent (J Clin Oncol, 2001; 19: 1830–8).

It may also be that large quantities of the phenolic compounds in green tea reduce the body's uptake of dietary iron (Am J Clin Nutr, 2001; 73: 607–12). However, this effect is minimised when the diet contains enough absorption enhancers such as ascorbic acid, meat, fish and poultry (Crit Rev Food Sci Nutr, 2000; 40: 371–98).

In theory, overdoing it with tea could promote the formation of calcium oxalate kidney stones (Marks V, *Tea: Cultivation to Consumption*, New York: Chapman & Hall, 1992: 707). However, to date, there are no reported incidences of kidney-stone formation due to green-tea consumption.

More urgent than the caffeine content are the heavy metals and other pollutants found in both black and green teas. According to estimates from the Ministry of Agriculture, Fisheries and Food (MAFF), the average adult aluminium intake in the UK is 5–6 mg/day. Around half of this comes from drinking tea (*Aluminium in the Brain: New Data*, Chemistry and Industry, 8 June 1988: 346). Levels are particularly high in teas from Assam, Ceylon, Darjeeling and some supermarket blends.

Aluminium ingestion is thought to be a risk factor for Alzheimer's-type dementia.

British scientists have concluded that aluminium concentrations in brewed teas are about 2–6 mg/L and, in theory, easily absorbed by the body (Food Chem Toxicol, 1988; 26: 959–60; Food Chem Toxicol, 1989; 27: 495–6). Also, tea brewed with soft tapwater tends to contain higher levels of aluminium than if hard tapwater is used.

The good news, however, is that the tannins in tea appear to reduce the effects of a high aluminium content (Nature, 1986; 321: 570). Drinking tea with milk rather than lemon may also lessen aluminium absorption. One experiment showed that aluminium absorption in the gut is greatly enhanced by citrate (Clin Chem, 1986; 32: 539–41).

Tea drinkers should also consider that conventional tea production means that the plants are sprayed liberally with pesticides and their soil treated with chemical fertilisers. For this reason, those wishing to get the best out of any kind of tea should consider switching to organic.

Moderate consumption of green tea—in fact, any kind of tea—can be part of a healthy lifestyle. But, as with any food, the quality of the product you consume and your ability to moderate your intake appear to be the key to maximising its benefits.

Both green and black tea are derived from the plant *Camellia sinensis*. Green tea is produced by lightly steaming the fresh cut leaves while, for black tea, the leaves are allowed to oxidise, which converts beneficial polyphenols into other, much less beneficial substances. This difference in processing means that the antioxidant activity of green tea is as much as six times greater than that of black tea (Eur J Clin Nutr, 1996; 50: 28–32).

This may also explain why, in some studies, black-tea consumption has been found to increase the risk of certain cancers (rectal, gallbladder and endometrial) (Nutr Cancer, 1992; 17: 27–31; Br J Cancer, 1986; 54: 677–83).

Natural cancer fighters

Ginger spice

Ginger (*Zingiber officinale*) has been used for centuries in Ayurvedic medicine as *trikatu*, a well-known remedy for digestive disorders. Ginger has always proved invaluable for nausea of every variety, including motion sickness and nausea after anaesthesia.

Ginger may also help to combat the nausea/vomiting and slow gastric-emptying associated with chemotherapy, as was seen in lymphoma patients undergoing photopheresis (where chemicals are introduced into the bloodstream, activated by UV radiation outside of the body, then returned to the patient), a therapy used for certain skin conditions (Dermatol Nurs, 1995; 7: 242–4).

Medicine is always on the lookout for non-toxic substances which can reverse or slow cancer, such as capsaicin (found in hot chili peppers), curcumin, grapes and green tea. These naturally occurring cancer fighters often have a few traits in common. All are powerful antioxidants and anti-inflammatories, which are thought to contribute to their ability to prevent cancer.

In-vitro studies show that ginger extract also possesses such antioxidant and anti-inflammatory properties. When applied to mouse skin cells, ginger extract appeared to inhibit epidermal oedema (by 56 per cent) and hyperplasia (by 44 per cent), two known markers of tumour growth.

Indeed, topical application of ginger extract 30 minutes before exposure to a tumour promoter significantly protected against skin tumours compared with controls (Cancer Res, 1996; 56: 1023–30). This study provides some of the first clear evidence of ginger's antitumour effects, at least in animals, and suggests that the mechanism of such effects may involve inhibiting the cellular, biochemical and molecular changes brought about by tumour promoters.

A later study showed that seven types of ginger contain non-toxic compounds that might prevent cancer. In this trial, these seven varieties of ginger naturally inhibited Epstein–Barr virus activation of tumour promotion (Br J Cancer, 1999; 80: 110–6).

Both studies, while preliminary, suggest that ginger may have a role to play in cancer prevention by inhibiting the formation of tumours.

Ginger is also well known to be useful against parasites. In one animal study, dogs infested with *Dirofilaria immitis* (heartworm) treated with ginger extract had an 83 per cent reduction in worms (J Helminthol, 1987; 61: 268–70).

The usual dosage of ginger is 2–4 g/day or 2 g for the treatment of nausea. You should never use it if you have a gall-bladder disorder of any variety.

Flaxseed

Emerging evidence suggests that consumption of flaxseed, one of the richest sources of plant-based omega-3 fatty acids, may help prevent prostate cancer.

In this pilot study, US researchers studied 25 men, all scheduled for surgery to remove a cancerous prostate. Levels of prostate specific antigen (PSA)—an indicator of prostate cancer—free androgen and total blood cholesterol were measured at the beginning of the study. The men were then put on a 34-day, low-fat, flaxseed-supplemented diet prior to surgery. The removed tumours were compared with 25 previous matched cases.

The men on the diet showed significantly greater decreases in cholesterol and testosterone. Reduced PSA levels were found in men with early-stage prostate cancer, and measures of tumour growth indicated a greater rate of tumour cell death after the diet. Those with more aggressive cancer, however, did not benefit from the diet.

In addition to useful omega-3, flaxseed has a high lignan content. Lignans are fibre-related compounds that bind testosterone in the gastrointestinal tract, and may play a role in suppressing the growth of prostate cancer cells (Urology, 2001; 58: 47–52).

Curcumin

Curcumin, a commonly used cooking ingredient and herbal remedy, may be able to fight cancer, according to US scientists.

Using an animal (rat) model, researchers at the Division of Nutritional Carcinogenesis, American Health Foundation, found that curcumin, when administered in the diet, had the ability to inhibit the development of colon cancer prior to, during and after exposure to carcinogens.

They also found that the substance could increase apoptosis (cell death) in colon tumours even if started late in the premalignant stage of the disease.

Although animal studies are not always reliable when applied to human beings, if human studies also demonstrate anti-cancer properties, it will add to curcumin's list of benefits. The culinary herb is a known antioxidant and anti-inflammatory (Cancer Res, 1999; 59: 597–601).

Honey

Preliminary research in mice suggests that honey can prevent the recurrence of tumours following a type of colon cancer surgery.

In the study, researchers smeared honey on incisions before and after tumour-cell injections. Only eight of the 30 animals developed tumours compared with all 30 of the honeyless mice.

Although this animal study may not apply to humans, the results could be a boost for long-time supporters of honey. The findings may also have implications for patients receiving keyhole surgery, since studies show that this type of surgery, often used to remove tumours, can itself cause tumours to recur at the point of incision.

The researchers do not suggest that honey has anticancer effects—only that it may exert an as yet unexplored protective barrier effect at the site of the surgical wound (Arch Surg, 2000; 135: 1414–7).

Acacia tree extract

Saponins found in the Australian desert tree *Acacia victoriae* contain biologically active chemicals, known as avicins, that demonstrate anticancer properties, according to two new reports.

In the first, researchers at the M.D. Anderson Cancer Center in Houston studied the protective effects of avicins in mice with skin cancer. Prior to a challenge with chemical carcinogens, some of the animals were treated with avicins while others were not. Avicin-treated mice were 70 per cent less likely to develop pre-malignant lesions than untreated mice. Those avicin-treated mice that did develop lesions had 90 per cent fewer lesions than untreated mice.

In a laboratory study by the same group using leukaemia cells, avicins were found to suppress the development of malignancies. Scientists remain confident that avicins may prove useful in preventing cancer by eliminating cancer-causing substances (Proc Natl Acad Sci USA, 2001; 98: 10986–8, 11557–62).

CHAPTER 9 Your anticancer

Those patients who most successfully fight cancer combine a dietary and supplement programme with the use of cancer-fighting substances—rather than simply seeking out a 'magic bullet' which is going to kill their cancer.

In one study of patients with pancreatic cancer, which usually has a survival time of about four months, patients receiving a mix of treatments—vitamins A and E, enzyme therapy, hyperthermia, tamoxifen, mistletoe, thymus extract and other substances to boost the immune system—trebled the usual survival rate and reported an improved quality of life, with a gain of appetite and weight, and pain relief (Erfahrungsheilkunde, 1996; 45: 64–72).

Here's a regime that patients with any type of cancer should follow:

◆ **Consume** a high-fibre, low-fat, low-protein diet, rich in dark-green leafy and yellow vegetables. (Risk of cancer appears to increase with the more protein you eat; Int J Cancer, 1990; 45: 899–901.) Lowering fat may enhance the function of your immune system and increase NK-cell activity (Am J Clin Nutr, 1989; 50: 861–7).

◆ **Don't** fry foods and do limit eggs as well as hydrogenated fats, smoked, salt-cured or pickled foods, sugar and too much salt. Vegetarian diets appear to be protective, as are soy products. The Kelley programme, which has 10 types of individually tailored diets, also shows evidence of success (see **WDDTY** vol 7 no 3).

◆ **Boost** your intake of carrots and tomatoes. A recent study from Brigham and Women's Hospital in Boston has shown that dietary carotenoids and antioxidants, found so abundantly in fresh fruits and vegetables, are an effective way to prevent ovarian cancer. High intake of carotenoids, especially alpha-carotene, from food and supplements was associated with a lower risk of ovarian cancer in postmenopausal women. High intake of lycopene was associated with a lower risk of ovarian cancer in premenopausal women. The foods most strongly associated with a reduced risk of ovarian cancer were raw carrots and tomato sauce (Int J Cancer, 2001; 94: 128–34).

◆ **Supplement** with at least 10 g/day of vitamin C, folic acid, B6 and the other B vitamins, antioxidant vitamins A and E, and digestive enzymes, if faulty. Some therapists recommend thymus extract to boost the immune system. Omega-3 and -6 fatty acids have been shown to kill cancer. As for minerals, too much calcium has been related to cancer (BMJ, 1989; 298: 1468–9) as have too-high levels of iron (N Engl J Med, 1988; 319: 1047–52)—although, at appropriate levels, both are protective. Selenium, magnesium, iodine and zinc all fight cancer. Germanium, another mineral, appears to enhance the production of our body's own interferon (Tohoku J Exp Med, 1985; 146: 97–104).

◆ **Drink** hard, rather than soft, water (J Orthomol Med, 1989; 4: 59–69), and avoid chlorine and fluoride, which have both been implicated in cancer.

◆ **Investigate** one of the major cancer fighters listed in Chapter 8.

◆ **Consider** a number of other substances which act as cancer inhibitors even if, on their own, they don't actually cure. These can help in conjunction with more potent anticancer agents. These include:

❖ **melatonin**, which can amplify the antitumour effect of a variety of substances. In one study of patients with spreading tumours untreatable by conventional means, nearly half the patients given melatonin and interleukin-2—which helps the immune system fight cancer—were alive a year later, compared with only eight of 48 given support alone (Supp Care Cancer, May 1995). Similar results have been achieved in patients with brain tumours given melatonin alone (Cancer, 1994; 73: 699–701) as well as those with gastric and lung cancers (Tumori, December 31, 1993; Oncology, 1992; 49: 336–9).

❖ **bovine cartilage**, which appears to be superior to shark cartilage (which also provides excessive amounts of calcium). In one study of 31 terminal cancer patients, 35 per cent showed a complete response

A low-cost alternative

There is no question that some alternative therapies against cancer work. However, some therapies are not available in the UK and often require a journey to far-off lands to initiate treatment, plus a great deal of money to afford the exorbitant pricetag, which most insurance companies won't cover.

So, here's a five-point plan for anyone with cancer who cannot afford those expensive options.

1 Establish and remove the cause

Some cancers have a clear cause, for instance, lung cancer and smoking. The causes can range from the psychological or stress-related to food intolerances and environmental pollutants—all of which, if isolated, can be controlled. Pioneering techniques such as humeral pathological testing (a fingerprick blood test viewed under high-power magnification) and bioresonance techniques can provide vital clues. Also, have yourself tested for food allergies.

2 Try orthodox medicine if appropriate

Don't dismiss orthodox medicine, particularly surgery, out of hand. Surgery can sometimes be curative, and even chemo- and radiotherapy may occasionally have their place in prolonging life or easing symptoms. To find out if orthodox medicine has a place in your treatment, ask your oncologist three questions:

- What are my five and ten-year chances of survival?
- What is the cure rate (not the response rate) of the proposed treatment for my type of cancer?
- What are the side-effects, and will it substantially reduce my quality of life?

Insist on honest answers. If you do decide to use orthodox treatment, complementary treatments can help prepare your body to deal with some of the damage and speed up recovery.

3 Activate your immune system

A full assessment and treatment by a homoeopath can boost your immune system. Certain herbal medicines have been proven to stimulate white-cell response (*Echinacea* is the best-known example). High-dose antioxidants and some of the new supplementary immune boosters such as MGN-3, MSM and IP-6 can also help.

Don't forget psychological and healing techniques. Psychoneuroimmunology techniques (such as visualisation) have been proven to boost the immune system, and healing has been documented to be effective both as a cure and to relieve the symptoms of cancer.

4 Examine your diet

There is strong evidence that diet can inhibit cancer growth and some evidence that it can cure it. Overwhelming evidence shows that cancer is created by carcinogenic compounds in our food. To stop the growth of a current tumour, it is vital to eliminate any bad dietary tendencies.

5 Use alternative anticancer treatments

The following cancer fighters, which can be taken at home or through a sympathetic GP, aren't outrageously expensive:

- High-dose antioxidant therapy, orally or intravenously
- Iscador, intramuscularly or orally
- Shark cartilage, orally or rectally
- Ukrain, intravenously
- Laetrile, orally or intravenously.

Other good supports include bioresonance techniques, Native Legend tea, the arabinoside MGM-3 therapies, and diets such as the Gerson, Budvig and macrobiotic.

with probable or possible cures (J Biol Resp Modif, 1985; 4: 583).

❖ **laetrile, amygdalin or vitamin B17**, a nitriloside present in hundreds of plants, particularly the seeds of apricots and peaches. The cyanide this contains is selectively poisonous to cancer. Several studies have shown that amygdalin can inhibit lung, breast and bone cancer (Moss R, *Cancer Therapy*, Equinox Press, 1995).

◆ **Engage** in mind–body therapies such as deep relaxation, meditation, visualisation and regular exercise as well as support groups.

If you have cancer and opt to follow conventional treatments, there are many alternative therapies which can alleviate the worst effects of chemotherapy or radiotherapy, and help your body to fight the cancer.

◆ **Coenzyme Q10** can counteract the extremely toxic effects of doxorubicin, which can cause cardiomyopathy or heart muscle disease (Cancer Treat Rep, 1978; 62: 887–91). The food supplement also prevents the malfunction of the liver and kidney caused by mitomycin and 5-fluorouracil (Cancer Res, 1980; 40: 1663–7) without interfering with their anticancer activity.

◆ **Hypnosis** has been of genuine value for children with cancer by decreasing their drug-related nausea and vomiting (Nurs Clin North Am, 1985; 20: 105–7).

◆ **Superoxide dismutase**, or SOD, is a non-toxic enzyme that converts free radicals to hydrogen peroxide, which other enzymes then break down to water and oxygen. The more SOD contained by breast cells, the less they are likely to succumb to cancer (Carcinogenesis, 1986; 7: 1197–201). One study concluded that "SOD plays an important role" in the destruction of lung cancer cells (Invas Metast, 1986; 28: 101–11).

In another study, a copper-containing formulation of SOD reduced tumour size, delayed metastases and significantly increased survival rate (J Natl Cancer Inst, 1981, 66: 1077–81).

Also, a German study, 60 per cent of rats with carcinosarcoma were completely free of cancer after just four intravenous doses of a copper-containing SOD (Free Radic Res Commun, 1990, 11: 39–51).

SOD can also help prevent the formation of tough, painful, fibrotic tissue following radiotherapy. In one study, transmuscular injections of a French-patented liposomal SOD reduced long-established fibroses by a third. In 82 per cent of patients, it softened fibrotic tissue after only three weeks (Free Radic Res Commun, 1986; 1: 387–94). Such good results were maintained up to two years later (Ann Med Intern [Paris], 1989; 140: 365–7).

One drawback of SOD is the short period of time that it remains effective in the body. However, a longer-lasting formulation of SOD called Orgotein has been developed. In a double-blind, placebo-controlled study of patients with bladder tumours, Orgotein injections safely and effectively ameliorated or prevented the side-effects caused by the high-energy radiation therapy, without interfering with the cancer-killing effects (Urol Res, 1978, 6: 255–7).

◆ **Diallyl sulphide**, the main flavour component of aged garlic, can inhibit certain cancers of the lungs and stomach. The more aged garlic consumed, the greater the effect (Cancer Lett, 1991, 57: 121–9). Extract of aged garlic can also protect against radiation damage, bring about less leakage of intracellular enzymes into the bloodstream, and reduce the death and loss of white blood cells and platelets (Lin R, presented at the First World Congress on the Health Significance of Garlic and Garlic Constituents, Washington, DC, 1990). When melanoma cells were treated with aged garlic, the shape of these cells began to return to normal (Hoon S *et al*., presented at the First World Congress on the Health Significance of Garlic and Garlic Constituents, Washington, DC, 1990).

◆ **Astragalus** is a non-toxic botanical medicine that boosts immunity and fights cancer (J Clin Lab Immunol, 1988, 25: 119–23). It protects against the ravages of chemotherapy, particularly liver degeneration, which is often demonstrated by raised liver-enzyme values in blood tests. In a study where *Astragalus* was used following chemotherapy, there was no increase in liver-enzyme readings. Other side-effects were also minimised (J Ethnopharmacol, 1990; 30: 145–9).

CHAPTER 10 Resources

USEFUL CONTACTS

People Against Cancer
(Worldwide)
604 East Street
P.O. Box 10
Otho, Iowa 50569-0010, USA
Tel: (515) 972 4444
Fax: (515) 972 4415
E-mail: info@PeopleAgainstCancer.net
Website: www.PeopleAgainstCancer.net
Will provide tailormade advice on the best alternative cancer regime for you

Menschen Geben Krebs
(People Against Cancer in Germany)
Cannstatter Strasse 13
Kernen, Germany 71394
Tel: +49 (715) 191 0217
Fax: +49 (715) 191 0218
E-mail: nexus@GMBH-Online.de
Website: www.krebstherapien.de

Bristol Cancer Help Centre
Grove House
Cornwallis Grove
Clifton, Bristol B58 4PG
Tel: 0117 980 9505

New Approaches To Cancer
c/o St Peter's Hospital
Guildford Road
Chertsey, Surrey KT16 0PZ
Tel: 01932 879 882
Freephone: 0800 389 2662

Ralph Moss
Equinox Press
144 St John's Place
Brooklyn, New York 11217
Tel: +(718) 636 4433 or +(718) 636 1679
Provides the same services as People Against Cancer

Cancer Help Centre in Dorset
c/o Dr Paul Layman, MB ChB, FFARCS
Tel: 01202 824 109
E-mail: paul@brackendene10.freeserve.co.uk
Phone consultations by a medical doctor; free information on safer toiletries, vitamin supplements and a range of alternative treatments for cancers

ALTERNATIVE PHYSICIANS

Dr John Clement
IAT clinic, Bahamas
Tel: +(242) 352 7455

Dr Waltraut Fryda
Kreuth-Tegernsee
Upper Bavaria, Germany
Tel: (+49) 802 9400

Dr Julian Kenyon
London W1 and Twyford, Hants
Tel: 020 7486 5588 or 01962 717 800

Dr Patrick Kingsley
Osgathorpe, Leicestershire
Tel: 01530 223 622

Dr Milan Pesic
Institute for Immunology and Thymus Research, Hannover
Tel: +49 (532) 296 0541

Dr Giancarlo Pizza
Sant'Orsola-Malpighi Hospital, Bologna
Tel: +39 05 1636 2478

Dr Fritz Schellander
Tunbridge Wells, Kent
Tel: 01892 543 535

Dr Axel Weber
Brannenburg, Bavaria
Tel: (+49) 803 490 8114
Website: www.klinic-marinus.de

FURTHER READING

What Doctors Don't Tell You
2 Satellite House
Salisbury Road
London SW19 4EZ
Tel: 020 8944 9555
E-mail: info@wddty.co.uk
Website: www.wddty.co.uk
A monthly newsletter offering the latest information about what works and what doesn't in conventional and alternative medicine

PROOF!
2 Satellite House
Salisbury Road
London SW19 4EZ
Tel: 0870 444 9886
E-mail: info@proof.co.uk
Website: www.wddty.co.uk
A monthly newsletter which tests and evaluates alternative and green products

The Cancer Handbook
Editor: Lynne McTaggart
Publisher: What Doctors Don't Tell You
(as above)
A compendium of the best and worse treatments in conventional and alternative medicine for cancer

RECOMMENDED READING

The Cure for All Cancers
Hulda Regehr Clark
San Diego, CA: ProMotion Publishing, 1993

Power Over Cancer
Vernon Coleman
European Medical Journal, 1996

The Immortal Cell:
Why Cancer Research Fails
Gerald B. Dermer
Garden City Park, NY:
Avery Publishing, 1994

The Dries Cancer Diet
Jan Dries
Element Books, 1997

Making the Right Choice:
Treatment Options in Cancer Surgery
Richard Evans
Garden City Park, NY:
Avery Publishing, 1995

Nutrition and Cancer:
State of the Art
Sandra Goodman
London: Green Library Publications, 1995

The Bristol Experience
Liz Hodgkinson and Jane Metcalfe
Vermilion, 1995

The Macrobiotic
Cancer Prevention Cookbook
Aveline Kushi
Garden City Park, NY:
Avery Publishing, 1988

Choices in Healing: Integrating the Best of Conventional and Complementary Approaches to Cancer
Michael Lerner
MIT Press, 1994

Questioning Chemotherapy
Ralph W. Moss
Brooklyn, NY: Equinox Press, 1995

Cancer Therapy
The Independent Consumer's Guide to Non-Toxic Treatment and Prevention
Ralph W. Moss
Brooklyn, NY: Equinox Press, 1995

The Cancer Industry
Ralph W. Moss
Brooklyn, NY: Equinox Press, 1996

Cancer Prevention and
Nutritional Therapies
Richard A. Passwater
New Canaan, CN: Keats Publishing, 1978

Alternatives in Cancer Therapy:
The Complete Guide to
Non-Traditional Treatments
Ross Pelton and Lee Overholser
Fireside, 1994