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## A suntan is not only healthy, it can be life-saving

Oliver Gillie, who is battling leukemia, explains why he blames the disease on a lack of exposure to the sun



Learning to love the sun: burning in the sun is harmful, but people who have regular weekend exposure to the sun in Britain get less melanoma than those who do not Photo: Getty Images

By **Oliver Gillie**

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 14 Comments

Every year I walk in the Scottish mountains, climbing steep, rocky slopes. So when, eight months ago, I had to stop and lean against a garden wall while walking up our street, I knew something was wrong. I was out of breath – perhaps at 76 that is not so surprising, but until then I had been very fit. It was not long since I had climbed the Aonach Eagach, the rocky northern ridge of Glencoe with two 3,000 foot peaks, a challenge that had taken me eight hours of walking and climbing.

My GP looked at my pale face and my white hands. It was not a difficult diagnosis: I was anaemic. A blood test at the local hospital showed that my haemoglobin was half what it should have been, so he sent me straight to University College Hospital, London (UCH). By the time I got there, my haemoglobin had sunk further, from 7.5 to 6 (for an adult male the normal range is 13 to 18 grams per 100ml of blood).

I was already under treatment at UCH for chronic lymphocytic leukaemia (CLL), which was diagnosed two years ago. CLL is a cancer of the white blood cells in which the cells grow in an uncontrolled way, accumulating in the lymph glands and causing tumours called lymphomas to develop.

I learnt that my white cells had now started to attack my red blood cells in an abnormal immune reaction, breaking them up, releasing the haemoglobin and causing anaemia. I needed a transfusion of specially irradiated blood, which my body would more easily tolerate because its antibodies had been removed.

By the time the blood bank had produced the special blood 48 hours later, my haemoglobin was down to four, the point at which it can be difficult to breathe. I watched it drip slowly into me and realised it was, quite literally, saving my life.

The discoveries of science, the prompt diagnosis and the extraordinary facilities of UCH were keeping me going. Once more the NHS had come to my rescue. My haemoglobin gradually returned to normal over the next few days, and with it my energy levels improved.

Over the past few years I have witnessed, and benefited from, the health service at its best – with the odd blip here and there. In July 2012 my left arm had swollen up to twice its normal size and a GP sent me to the A&E at the Whittington Hospital in north London for an X-ray. But it was late on a Friday afternoon and it proved impossible for me to get one. Not knowing what to do, I walked home.

After a worrying weekend, a body scan found I had multiple lymphomas, pretty much from head to toe. In addition, an ultrasound scan discovered that a blood clot was advancing from my arm towards my heart. The clot had been created by a lymphoma in my armpit, which was interfering with blood and lymph circulation, making the arm swell.



Oliver Gillie being treated for CLL at University Hospital (CLARA MOLDEN) An urgent operation the next day removed the lymphoma and my arm deflated slowly. But after several days I developed a

fever. The surgical wound had become infected and I was now suffering from blood poisoning. I was again seriously ill and was readmitted to hospital; the infection was stopped in its tracks by powerful antibiotics, given intravenously. After the operation I had six months of daily heparin injections to stop my blood from clotting again. For the past three months I have been taking a massive dose of steroids to knock back my white blood cells, which are further curbed by infusions of Rituximab, a serum costing £1,222 per dose.

The cost of staying in hospital is £1,000 a day, with £500 for each outpatient treatment and about £480 for four units of the irradiated blood I was given to correct the anaemia. The total cost of keeping me alive, including some six weeks of in-hospital treatment, can hardly be less than £30,000 – and counting.

As someone who has spent a lifetime writing about health, I cannot help wondering why I have this expensive disease. I have had access to the best possible advice on healthy living and tried to act on it. Was there something I overlooked? Yes, I believe there was. Like many people, for years I heeded the advice of cancer charities and the government to cover up and avoid strong sunshine. But now I know that CLL, like a number of cancers and several other conditions including heart disease, diabetes and multiple sclerosis, is associated with low levels of vitamin D. This vitamin is made by the body during the exposure of skin to sunshine – only 5 per cent of what we need comes from our diet.

It is deeply ironic that vitamin D should play a part in my disease – and I am convinced it has – because I have spent the past 10 years campaigning on the multiple health risks of low vitamin D. I now know that for optimum health in our northerly climes we need to get as much sun exposure as possible, while taking care not to burn. This is the opposite of conventional medical wisdom, but it is supported by high quality research showing that people who get more exposure get less cancer (including the skin cancer, melanoma). The topic of vitamin D is controversial. In articles published earlier this year, *The Lancet* (Diabetes and Endocrinology) questioned whether some doctors and scientists interested in vitamin D were, as the headline on an editorial put it, “Chasing a myth?” Clinical trials of vitamin D supplementation have generally failed to reduce the risk of certain diseases, such as some cancers and diabetes, and so, the journal argued, insufficient vitamin D cannot have been the cause in the first place. The authors of the papers maintained that low vitamin D in people with these diseases arises because they are ill and do not go out in the sun as much as others – this is called reverse causality. (The editor of that *Lancet* issue, Justine Davies, declined to comment.)

However, my disease, CLL, has been investigated by 40 scientists collaborating in a major European study of cancers involving the lymph glands (these are part of the lymphatic system which fights infection), and their work has been published in the *American Journal of Clinical Nutrition*. They found that CLL was the only lymph gland

cancer of several that was consistently associated with low vitamin D. If the low vitamin D was a result of failure to go out in the sun because of illness, people with the other lymphoid cancers would also be expected to have low vitamin D. They do not. This is what scientists call “specificity”, which in this case suggests that low vitamin D may be the cause of my disease.

Dr Kay Tee Khaw, an eminent Cambridge scientist involved in the study, said: “Higher concentrations of vitamin D in the blood are associated with a reduced risk of CLL. These results contribute to the increasing body of evidence showing that insufficient vitamin D may increase risk of the disease.”

Studies of CLL have shown that it arises when white blood cells mutate, and this may occur more easily when vitamin D, which has a controlling effect on their growth, is low. Mutations allow the white cells to multiply out of control and accumulate in the lymph glands, which enlarge and become lymphoma.

The Lancet in effect argues that “gold standard” clinical trials of vitamin D would be expected to curb these mutant white cells if insufficient vitamin D was the cause of the disease; but in my view the journal’s reasoning is faulty here. It is insufficient vitamin D at an earlier stage in life, including childhood or during pregnancy, that is probably the cause of the CLL mutations in the white cells. So it cannot be expected that CLL will necessarily be corrected in adulthood simply by supplying vitamin D at that stage of life. I call this error of reasoning the “gold standard fallacy”. In backing this fallacy, The Lancet has promoted the idea that supplementation with vitamin D is largely ineffective, and in doing so it risks causing serious harm by discouraging people from taking vitamin D supplements in childhood, teenage and subsequent years when damage from deficiency may actually occur.

Who does not remember the slogan: “There is no such thing as a healthy tan”? It must be one of the most successful campaigning slogans ever. But sadly, it was never honest science, based on evidence. Cancer societies round the world, backed by cosmetic companies, beat the slogan into a generation of people, who like me, thought we were protecting ourselves and our children from skin cancer by using suncream and avoiding the sun. Now it is acknowledged that the risk of melanoma, the most serious form of skin cancer, is associated with severe burning and not with straightforward sun exposure. Sometimes the truth is the opposite of what we think we know, and this has proved to be the case in the UK. While sunburn can cause melanoma, people who have regular weekend exposure to the sun in Britain get less melanoma than those who do not, according to findings of Julia Newton Bishop and colleagues published in the European Journal of Cancer. Could it be that vitamin D from sunshine protects against melanoma, just as it appears to protect against several types of non-skin cancer? (The common skin cancers, squamous cell and basal cell types, are associated with sunburn and excessive sun exposure, but they are rarely a serious problem.)

If I had ignored the misleading slogans promoting avoidance of sunshine and had more sun exposure and more vitamin D in early life, perhaps I would not have cancer now. But I do, and I must rely on the NHS to keep me going.

CLL brings other complications, in particular lung disease, resulting in shortage of oxygen and breathlessness. I was back in hospital recently after becoming breathless at the slightest exertion and losing all energy. It might have been a lung infection or another autoimmune reaction. I need another miracle.

At its best, the NHS is comparable with the greatest health care in the world. And so I am always hopeful. Progress has been slow since then, but my breathing is getting better. Our health service is far from perfect. I can never forget that I was sent home from A&E with that massively swollen arm undiagnosed and untreated; and in a perfect world I would not have suffered a wound infection. I know that many hospitals are not meeting their targets on waiting times for diagnostic tests and treatments. Some hospitals are better than others, and in recent years the public has been profoundly shocked by the failings of several. Many patients worry about whether they are getting the best treatment available. But every minute of every day the health service and its dedicated staff are saving lives like mine – and for that I am truly grateful.

**Oliver Gillie is an award-winning writer and scientist. He has just received a Lifetime Achievement Award from the Medical Journalists' Association for his work on sunshine and vitamin D**