

Good day, sunshine

Come out from under your factor 50! We know sunshine makes us feel happy but now experts say it's good for us, too. Barbara Lantin discovers its health-boosting benefits

SOMETHING SEEMS TO HAPPEN TO US WHEN THE SUN SHINES. Suddenly, there's a smile on our faces and a spring in our step. But it is not just our brains that receive a boost from sunlight. According to a growing number of experts, the sun helps protect against a range of illnesses, including high blood pressure, diabetes, osteoporosis and cancer. Sunlight enables the body to synthesize vitamin D, which is essential for cell growth.

It is hard to get all the vitamin D we need from diet, and more than 80% of our requirement comes from the sun. But we may no longer be getting enough. Fears about skin cancer and wrinkles are leading us to shelter from the sun's rays – with potentially worrying results.

'There's an unrecognised epidemic of vitamin D deficiency in the US and UK adult population,' says Michael Holick, professor of physiology at Boston University School of Medicine. 'Chronic deficiency has subtle and insidious consequences for health and wellbeing – in particular for older people. For example, 40-60% of people with the musculoskeletal disorder fibromyalgia are deficient in vitamin D, as are

63% of women with osteoporosis.

'We've found that sunlight has a beneficial effect on heart health equal to exercise, and on blood pressure similar to standard medications. Sun exposure helps build and maintain bone density and reduces fractures. It can provide immunity against some devastating diseases, including some of the most deadly internal cancers.'

There is evidence that vitamin D deficiency is increasing. A study carried out by Professor Holick in Boston found that 32% of people aged 18-29 were deficient at the end of a typical winter. The bone deformity rickets, virtually eradicated in the West by the 1950s, is re-emerging.

'The figures are distressing,' says Dr Barbara Boucher of the Centre for Diabetes and Metabolic Medicine at Queen Mary, University of London. 'Children from the age of three are a bit short of vitamin D and the shortfall increases as they go through secondary school. Among adults in the UK, 15-20% are sufficiently lacking in vitamin D to be likely to have symptoms such as pains and muscle aches, and far more are not fully replete. In one study of women in the final month of pregnancy living in the southeast – the sunniest part of

the country – 50% did not have adequate supplies of vitamin D.'

Expose yourself

The cause of the problem is partly the UK climate: the winter sun is too weak to provoke the chemical reaction that produces vitamin D. The vitamin can be stored for 30 to 60 days if supplies are adequate before winter begins but, by December, levels are likely to be low. Some groups are at higher risk of deficiency, including the elderly who make vitamin D less efficiently than younger people, those with dark skins whose pigment blocks the absorption of UV radiation, the housebound and those who cover up for health, cultural or religious reasons.

Health messages about the dangers of sun exposure may be adding to the problem. Applying sun cream stronger than sun protection factor (SPF) eight cuts our ability to make vitamin D by 90%.

Daylight robbery

According to one US study, people exposed to lower doses of UVB radiation are at higher risk of contracting 16 different cancers. Another study showed that women with the greatest exposure to >

sunlight or the highest vitamin D levels were 20-50% less likely to suffer from breast cancer than those with the lowest exposure. Work by Professor Richard Strange at Keele University School of Medicine found that northern European men who had had the most exposure to ultraviolet radiation had a lower risk of prostate cancer and, when they did develop it, contracted it at a later age.

How the sun boosts health

BONE HEALTH: Vitamin D regulates calcium levels in the blood and helps maintain strong bones.

DIABETES: People who are vitamin D deficient in infancy or who are born to women with a deficiency are more likely to develop Type 1 diabetes, and Dr Boucher has established a link between lower levels of vitamin D and Type 2 diabetes. Dark-skinned Asian immigrants to the UK are four to five times more likely to develop Type 2 diabetes than the white population.

MULTIPLE SCLEROSIS: Research published last year showed that people born in May in the northern hemisphere have a higher than average risk of developing MS, while November babies have a lower risk. The mother's exposure to sunlight in the early stages of pregnancy may explain the difference.

MENTAL HEALTH: The levels of some neurotransmitters in the brain, including serotonin, are altered by the amount of light that enters the eye.

Low levels of serotonin are associated with depression. Research shows that the further from the equator people live and the less sunlight they see in winter the more likely they are to suffer from Seasonal Affective Disorder (SAD), a form of depression that affects people in winter. 'Research shows that on sunny days you are more likely to sell your house or car because people are more trusting and optimistic,' says Dr Lance Workman, head of psychology at Bath Spa University.

Play it safe

According to the Food Standards Agency (FSA), most people: 'should



Wear sunglasses and a wide-brimmed hat when the sun shines to prevent vision loss

be able to get the vitamin D they need from their diet and by getting a little sun', but it recommends that pregnant and breastfeeding women take a 10 microgram (mcg) daily supplement and that those at risk of deficiency (see previous page) or who eat no meat or oily fish should consider supplements. Oily fish is the best dietary source of vitamin D, also found in eggs and fortified margarine. A portion of salmon provides about nine mcg.

Many experts believe that the FSA advice is out of date and that we need more vitamin D than we are getting. The problem with supplements is that, in very high doses, the vitamin is toxic, although the FSA concedes that 'taking 25mcg or less of supplements a day is unlikely to cause any harm'. An

American study published late last year found that taking 25mcg a day significantly reduced the risk of ovarian, breast and colon cancer. However, some British scientists are not convinced.

There is evidence that taking 1,200mg of calcium and 20mcg of vitamin D daily can help prevent fractures in older people.

In the summer, we in the UK can get all the vitamin D we need from sunlight – but how much time should we spend in the sun? The issue is complicated because there are so many variables: fair-skinned people need less sun to obtain adequate supplies of vitamin D than those with dark skin, and the closer you are to the equator the less exposure you need. 'Scientific studies showing how much vitamin D people with different skin types obtain from the sun at different latitudes have not been carried out,' says Graham Bentham, professor of environmental sciences at the University of East Anglia. 'But this deserves to be taken seriously if we are to advise the population.'

Professor Bentham advises against prolonged summer sunbathing and says that people with fair skin should limit their sun exposure in the middle part of the day to between 10 and 15 minutes. 'This will secure useful vitamin D benefits without the risk of sunburn and the cancer risks associated with it. In the winter, make sure you have dietary sources of vitamin D, plus a supplement.' Or take a holiday in the sun.

Now turn the page for the latest sun care advice. ▷

THE SUN CAN ALSO BE AN ENEMY

- More than 7,300 cases of malignant melanoma – the deadliest form of skin cancer – are diagnosed each year in the UK and there are more than 1,700 deaths annually. Melanoma rates are rising and the victims are getting younger. 'Today's children are three times more likely than their grandparents to develop skin cancer as adults,' says Professor Brian Diffey, an adviser to Cancer Research UK.
- Exposing the eyes to sunlight may increase the risk of age-related macular degeneration, the major cause of vision loss in older people – so wear dark glasses and a wide-brimmed hat when the sun shines.
- The SunSmart code, a version of which has helped reduce melanoma rates among young people in Australia, advises people to stay in the shade between 11am and 3pm, avoid burning, cover up and use at least factor 15 sunscreen. Children should be especially careful, as research suggests that sunburn in childhood can double the chances of developing melanoma in adult life.