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HealthWatch

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Newsletter 65 April 2007

“UNELECTED, OPINIONATED, AND INVIOLETE”

I WAS BROUGHT up to respect the Royal Family without question, writes Les Rose. How times have changed. On 12th March Channel 4 TV aired a concerted attack on “Charles: the Meddling Prince”. It focussed on the knotty problem of whether the Prince of Wales is straying outside the confines of political impartiality, by his 38-year campaign of intervention with government.

Yes, it started when he was 21, just after his investiture, and we were shown letters to the then Prime Minister Harold Wilson from the Prince, and also from ministers who felt that His Royal Highness was already creating a potentially dangerous situation. The programme covered a wide range of topics close to the Prince’s heart, but readers here will be most interested in his views on alternative medicine. The programme described how its producers had attempted, since September 2006, to obtain documents under the Freedom of Information Act, regarding contacts between the Prince’s household and the Medicines and Healthcare products Regulatory Agency (MHRA). It has been admitted by the MHRA that such documents do exist, but they are embargoed under section 37 of the Act, which exempts the Royal Family. The programme didn’t clarify that this is not a blanket exemption, and is subject to a public interest test. The MHRA chooses to claim that the public interest is not served by our knowing whether the Prince is seeking

to influence decisions that affect our access to health care.

There was quite detailed coverage of the Prince’s Foundation for Integrated Health. Like Clarence House itself, this is a lobby group which seeks to advance the Prince’s views, in the absence of any scientific understanding on his part. This last point was made by HealthWatch member and 2002 award winner Professor Michael Baum, who said that the Prince has a romantic and archaic world view, and does not understand what evidence is. The story of how Clarence House tried to silence another HealthWatch award winner, Professor Edzard Ernst (2005), by complaining to his university was explained in detail, with Professor Ernst testifying on camera. This all centred on the Smallwood Report, commissioned personally by the Prince in 2005, and which tried to make an economic case for escalating use of complementary and alternative medicine in the NHS. The report’s authors, the banker Christopher Smallwood in conjunction with the market research agency Freshminds, had

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Should NICE evaluate complementary medicine?

RESEARCHERS went head to head recently in the *British Medical Journal* over the issue of whether the National Institute for Health and Clinical Excellence (NICE) should review complementary and alternative therapies.

Around half of general practitioners provide access to complementary medicine, and two thirds of Scottish general practitioners prescribe herbal or homoeopathic medicines, so a thorough review by NICE would benefit the NHS and patients, argue Professor Linda Franck and colleagues from University College London Institute of Child Health. Some people within conventional medicine remain deeply convinced that alternative medicine cannot have any possible benefit, but this is all the more reason that these therapies should be rigorously evaluated, they maintain. They believe that failure to evaluate complementary therapies also leads to health inequalities because of uneven access and missed opportunities. For example, as complementary therapies are often relatively cheap, if shown to be effective they could save money.

But David Colquhoun, Professor of Pharmacology of University

College London, argues that NICE cannot afford to re-examine evidence that has shown little benefit. He points out that NICE already have alternative treatments in several of their reports and, in all these cases, they have found no good evidence for anything more than placebo effects. None of this is intended to deny the important role of supportive and palliative care for patients for whom that is the best that can be done, he says. But there is no need to subscribe to the early 19th century pseudoscientific hocus pocus of homoeopathy to treat sick patients sympathetically and holistically.

And there is no need for NICE to spend time and money coming to that conclusion when it has more important things to do, he concludes.

NICE is the independent body set up in 1999 to get the best from NHS resources by examining the value of treatments used in the NHS.

British Medical Journal 2007; **334**: 506-7.

Linda Franck paper:

<http://press.psprings.co.uk/bmj/march/feat506.pdf>

David Colquhoun paper:

<http://press.psprings.co.uk/bmj/march/feat507.pdf>

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FRESH FACES ON COMMITTEE

SOME DISTINGUISHED new members have joined the HealthWatch Committee in the last year. The most recent is Dr James May (below, left) a GP Principal at Lambeth Walk Group Practice in Kennington, London.

Dr May, who graduated from Sheffield Medical School in 1997, has a long-term interest in history and philosophy of science and world views, and has been involved with HealthWatch ever since he attended the presentation by the late John Diamond at the 2000 HealthWatch AGM.



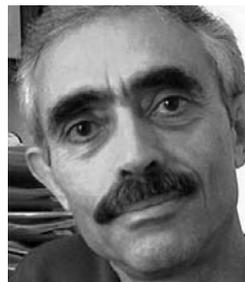
One of our most active HealthWatch members and newsletter contributors has now become one of our most vocal committee members. Les Rose (below, right), freelance consultant clinical scientist, brings to HealthWatch his 28 years' experience in managing clinical trials, training researchers, and evaluating results. He coordinates a group of experts associated with Sense About Science, who were responsible for the highly-publicised letter

sent to NHS trusts last year, asking them to avoid untested treatments.

Finally, a leading clinician who has lectured and published extensively in his field, Keith Isaacson (above, right) has also been contributing to the HealthWatch Newsletter for several years. Mr



Isaacson is Senior Consultant Orthodontist currently at the North Hampshire Hospital, Basingstoke. He is particularly concerned about the number of patients that he sees who report unsubstantiated claims that have been made for the benefits of orthodontic treatment. These can include in some cases, improving the patient's spinal curvature and posture.



MEDIA NUTRITION "EXPERTS" CHALLENGED

IN RECENT WEEKS there have been a number of high-profile challenges to the credibility of "nutrition therapists" in the media. On 12th February the Guardian newspaper indulged last year's HealthWatch Awardwinner Ben Goldacre to the extent of publishing his multi-page diatribe (no fewer than 4,600 words in length) against media personality Gillian McKeith.

The article, headed, "A menace to science", was prompted by a complaint to the Advertising Standards Authority about the multi-millionaire celebrity author using the title "doctor" on the basis of a qualification gained by correspondence course from a non-accredited American college. Ms McKeith has now agreed voluntarily not to call herself "doctor" in print advertising. Her website <http://www.drgillianmckeith.com/> continues to use the title, which appears more than 30 times on the home page alone. In his article Dr Goldacre (who is a *bona fide* doctor of medicine) highlighted a public challenge that HealthWatch's John Garrow made to Ms McKeith in 2000, in which he invited Ms McKeith to substantiate claims made for her products. She did not respond.

Read Goldacre's article on <http://www.guardian.co.uk/food/>

[Story/0,,2011095,00.html](http://www.guardian.co.uk/food/Story/0,,2011095,00.html)

There have also been heated exchanges between dietitian Catherine Collins and Patrick Holford of the Institute of Optimum Nutrition over his "Food for the Brain" programme which has run for a number of months at Cricket Green school in Mitcham, Surrey. The programme, which has received publicity on national television, involves children eating a healthy diet boosted with vitamin, mineral and essential fatty acid supplements and claims to improve behaviour. Unfortunately Ms Collins' letter to the *Independent* of 7th January 2007, and an *Independent* article of the same date titled, "Doctors warn against food fad dangers: Nutrition experts 'massively concerned' over unqualified and unregulated diet gurus", by Sophie Goodchild and Jonathan Owen, can no longer be accessed on the *Independent* web site. However the gist of the argument can be gleaned from Patrick Holford's reply on http://www.patrickholford.com/content.asp?id_Content=1750 and more details about the Food for the Brain programme are on http://www.foodforthebrain.org/content.asp?id_Content=1

"Unelected, opinionated, and inviolate"

rejected Professor Ernst's advice on evidence, and he had then talked to a newspaper when presented with a previously leaked draft (I can sympathise, as Freshminds also interviewed me for the report and then excluded all my material). Our good professor stated that the report's conclusions appeared to have been written before the main body, as there were very few data to support them.

Two leading academic lawyers were very critical of the Prince's activities, as were several politicians including Lord (Roy) Hattersley and Dr Evan Harris MP. To its credit, the programme

invited comment from Clarence House, and read out extracts from a very long written reply from Sir Michael Peat, the Prince's private secretary. The mindsets which prevail in that household, and the general tone of the reply, can be judged by Sir Michael's claim that whatever the Prince has said, he is usually right. The Prince is unelected, he is certainly opinionated, but inviolate? Forgive me, but I thought the divine right of kings ended in 1649.

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Les Rose
HealthWatch committee member

REMEMBERING MICHAEL ALLEN

MICHAEL'S DEATH was a crushing blow for his close-knit family, and also for HealthWatch, the charity that they had served so loyally and well. Michael was an outspoken member of the executive committee since the inception of HealthWatch, and one who undertook whatever jobs were needed. When some additional task arose, like updating the membership list, or mailing out copies of the Newsletter, he would quietly say, "We can handle that", and everyone knew that it would be done, and that "we" meant the powerful combination of Michael and his equally industrious and conscientious wife, Walli Bounds.

A small charity depends utterly on the quality and self-sacrifice of its trustees. In addition to his willingness to do unpaid work for HealthWatch, Michael gave also his characteristic honesty and good judgement. His area of expertise was in the regulations concerning registration of prescription drugs, which was particularly important when considering the efficacy of treatments in either orthodox or alternative medicine. Big Pharma is routinely demonised by some patient advocates, and (despite the regulations) some of their accusations of unfair trading are true, and are given great support by alternative medicine lobbies. But everyone in pharmacology is not dishonest, nor are all "natural" therapists trustworthy, so the healthcare critic needs honesty and good judgement to direct either credit or blame to the correct target, and Michael was always a reliable guide.

Since he was not given to self-pity, only Michael's family and

close friends appreciated his remarkable stoicism in the face of chronic ill-health. Several decades ago surgery for an abdominal cancer was "successful" in that he survived, but left him with a series of complications that would have broken the spirit of a lesser man. This was another situation in which Walli was a tower of strength up to the very end. His family and colleagues will sorely miss him, but remember him as a man of great integrity and charm.

John Garrow

Michael Allen passed away on 17th January 2007. PjOnline, the website of the Pharmaceutical Journal, also carries a memorial to Michael which can be viewed on www.pjonline.com/Editorial/20070210/society/obits.html

news in brief

REFORMS are being prepared to regulations that currently allow unqualified, unlicensed practitioners to administer untested herbal concoctions to customers following a personal consultation. The Medicines and Healthcare Products Regulatory Agency is looking at changing Section 12 (1) of the Medicines Act 1968, commonly referred to as the "Herbalist's exemption", in order to impose safety and quality standards upon unlicensed herbal preparations; and to make practitioners more professionally accountable. Written comments on the discussion documents were being accepted up to 30th March 2007. Read about progress on the MHRA web site, http://www.mhra.gov.uk/home/idcplg?IdcService=SS_GET_PAGE&useSecondary=true&ssDocName=CON2030282&ssTargetNodeId=387

DR BRUCE FLAMM, a Clinical Professor of Obstetrics & Gynecology at the University of California-Irvine, has issued a public plea for pressure to be brought on the *Journal of Reproductive Medicine* to withdraw the extraordinary "pray for pregnancy" study that it published five years ago. On the James Randi website Dr Flamm protests, "The results of the 2001 Cha/Wirth/Lobo study defy the laws of physics. The authors claimed that prayers from the United States and Canada caused a 100% increase in the success rate of complex IVF infertility procedures performed in Korea." Of the three original study authors, one claims he had only minimal involvement and has now had his name removed from the paper; a second is in federal prison serving a five-year term for fraud, and a third has now been charged with plagiarism of another article that he published in 2005 in a different journal. "In light of all the above," says Dr Flamm, "there is no author left to support the mysterious 2001 Cha/Wirth/Lobo study and absolutely no reason to believe the absurd results. Yet Dr. Lawrence D Devoe, editor of the *Journal of Reproductive Medicine*, still refuses to retract the nonsensical paper."

<http://www.randi.org/jr/2007-02/021607failure.html#17>

THE UK GOVERNMENT has dealt a fresh blow to patient access to quality health information. The National Health Service has axed funding for the British Medical Association's award-winning website **BestTreatments.co.uk**. BestTreatments was launched in 2004 through NHS Direct Online. It explains over 1500 treatments used for 200 clinical problems, giving information based on the best and most up-to-date research. When Professor John Garrow reviewed the site last year in the *HealthWatch Newsletter* (issue 62, July 2006), while he had reservations about how evidence for some alternative therapies was presented, he said, "It is a beautifully constructed website that I found very easy to use. It is not sponsored by drug or other companies...so it is impartial, and when it does not know it says so." The site's editor, Cherrill Hicks, remarked, "The Department of Health appears to be backtracking on its commitment to put patients at the centre of health care." From 2nd April 2007 access to the site will be by payment only.

www.besttreatments.co.uk

THE BENEFITS of garlic and garlic supplements are in question after a randomized double-blind clinical trial found no improvement in cholesterol levels among patients with moderately elevated (130 to 190mg/dL) LDL-cholesterol levels. Nearly 200 participants received a clove-sized daily dose of either raw garlic, a powdered garlic supplement, an aged garlic extract supplement, or a placebo for six months. The study found no statistically significant difference in health-related parameters such as HDL cholesterol and triglyceride levels in the four groups. While positive effects of garlic have been noted in animal trials and some modest benefits shown in early human tests, more recent well-designed human trials found no benefit. The researchers called for large, carefully designed trials to scrutinize other purported beneficial health effects such as increased fibrinolysis, decreased atherosclerosis, or anticarcinogenic properties.

Archives of Internal Medicine 2007; 167: 346-353.

TRANS-FATTY ACIDS

From time to time HealthWatch experts produce position papers which explain and give an authoritative view on controversial medical issues. These can be found on the HealthWatch website www.healthwatch-uk.org. Here follows biochemist David Bender's new position paper on Trans-fatty acids. His updated paper on nutritional supplements is now also available on the website.

SINCE JANUARY 2006 the US Food and Drug Administration has required that the Nutrition Facts panel on food labels includes the amount of trans-fatty acids in the food, as well as the amounts of saturated fat and cholesterol (which have been required since 1993). Foods may be labelled as containing "zero trans-fat" if they contain less than 0.5g in a serving¹. According to a British Nutrition Foundation information sheet², the UK Food Standards Agency is in favour of revision of the EU directive on nutrition labelling to include trans-fatty acids on food labels within the European Union as well.

The FDA regulations apply only to packaged food sold in shops; there is no requirement for nutrition labelling of foods served in restaurants. Stender and coworkers have reported that French fries and chicken nuggets in American fast food restaurants may contain between 5 and 10g of trans-fat in a serving. They note that in Denmark, where there are restrictions on the use of industrially-produced trans-fats, similar fast foods contain negligible amounts of trans-fatty acids³.

On December 5th 2006, the New York City Public Board of Health voted to ban the use of all but "tiny amounts of artificial trans-fats" in restaurant cooking, to be phased in from July 2007⁴, and other cities in USA are considering similar moves. Some supermarket chains in UK and elsewhere have announced that they will eliminate all (artificial) trans-fatty acids from their own-label products.

What was less noticed in the press coverage of the reports from New York was that at the same time the Board also voted to require that the calorie content must also be displayed in restaurants, as part of the drive against obesity. It will doubtless surprise many to learn that a standard double hamburger with a standard (relatively small) serving of French fries will provide some 1200 kcal, while a double cheeseburger alone will provide almost 1400 kcal - out of a notional 2000 kcal per day for an adult⁵.

The public debate is, predictably, highly polarised. At one extreme there is the **BanTransFats.com** website, which prides itself on having persuaded all 18 restaurants in Tiburon, California, to use only oils free from trans-fats. The same organisation sued Kraft Foods in 2003 (amazingly for American law suits, for zero dollars) and forced them to cease using trans-fats in the manufacture of Oreos cookies⁶. At the other extreme, the **junkscience.com** website⁷ dismisses the peer-reviewed papers (published in highly reputable journals) that suggest that trans-fatty acids are hazardous to health on the grounds that individual studies are relatively small, some were inconclusive, and the same authors (all highly respected epidemiologists) were involved in several different studies. More soberly, the American Council on Science and Health (ACSH) listed trans-fats as number 1 of its The Top Ten Unfounded Health Scares of 2006⁸, largely on the grounds that "overstating the health effects of TFAs is harmful to public health because it promotes an overemphasis on this single dietary factor as opposed to other aspects of diet, other risk factors for coronary heart disease, and other public health priorities. ... the current exaggerated focus on TFAs may actually cause more problems than it solves."

Hydrogenated vegetable oils and trans-fatty acids

The difference between oils and fats is that oils are liquid at room temperature, while fats are solid. This is because solid fats contain mainly saturated fatty acids, while liquid oils contain relatively large amounts of mono- and polyunsaturated fatty acids. In terms of cooking and food manufacture, the difference is important. Unlike liquid oils, solid fats can be spread on bread (butter and margarine); they can be used to make pastry, cakes and biscuits. They have a higher fire point (the temperature at which they will catch fire). This means that they can be used for frying at higher temperatures (anyone who has eaten potatoes fried in olive oil, as is usual in Greece,

will know that the oil does not become hot enough to make a good chip). More saturated fats can also be used for frying for longer - an important consideration in commercial catering and food manufacture - because they are less susceptible to oxidative rancidity.

The catalytic hydrogenation of liquid oils, by converting all or part of the unsaturated fatty acids to saturated fatty acids, was patented in 1902, opening the way for use of vegetable oils to produce solid fats to replace butter, lard and suet. By controlling the extent of hydrogenation it is possible to produce fats with whatever melting point and other properties as are required.

Almost all of the naturally occurring unsaturated fatty acids are in the cis-configuration, in which the carbon chain continues on the same side of the double bond, although small amounts of trans-isomers of fatty acids occur in fat from ruminants (including milk fat), as a result of intestinal bacterial synthesis of trans-fatty acids that are absorbed by the animal.

When relatively simple methods for differentiating between the cis- and trans-isomers of fatty acids became widely available, in the 1980s, it was discovered that partially hydrogenated oils contain relatively large amounts of trans-fatty acids. This is not surprising - the process of catalytic hydrogen involves destabilising the double bonds of the unsaturated fatty acids; some are then hydrogenated (so becoming saturated), while others are not hydrogenated, but return to their stable unsaturated state in either the cis- or trans-configuration at random.

Health effects of different types of fat and the introduction of trans-fats

A series of feeding experiments in the 1950s and 1960s revealed the effects of varying the relative amounts of saturated and unsaturated fatty acids on serum cholesterol, and later specifically low density lipoprotein (LDL) cholesterol, the main risk factor for atherosclerosis and coronary heart disease). In these studies, mono-unsaturated fat was replaced by an equivalent amount of either saturated fat (which raised LDL cholesterol) or polyunsaturated fat (which lowered LDL cholesterol)^{9,10}.

The conclusion from these studies was obvious. Saturated fats are nutritionally undesirable, even though they have highly desirable properties for cooking and food manufacture. Trans-isomers of unsaturated fats have many of the desirable physical properties of saturated fats, and manufacturers, especially in USA, started to use partially hydrogenated vegetable oils to provide solid fats with a lower content of saturated fatty acids.

What is surprising (with hindsight) is that although the trans-fats behaved more like saturated than unsaturated fats in food manufacture, it was apparently assumed that physiologically they would behave like cis-unsaturated fats. This is certainly not the case for their behaviour in cell membranes, where they have a more deleterious effect on membrane fluidity than do saturated fats. There is also evidence that, like saturated fatty acids, trans-isomers inhibit cholesterol esterification, and so might be expected to increase LDL cholesterol

The health risks of trans-fats

In 1993, Willett and coworkers¹¹ analysed data from 85,095

women in the Nurses' Health Study, estimating intake of trans-fatty acids from diet questionnaires, and showed that over 8 years of follow-up there was a significantly increased risk of cardiovascular disease with increased consumption of foods rich in trans-fatty acids, even when other risk factors were taken into account. In 1995 the report of a British Nutrition Foundation task force¹² concluded that current intakes of trans-fatty acids in the UK were about 2% of energy, and should not increase. More recent dietary surveys¹³ suggest that average intakes in the UK have fallen to about 1.2% of energy intake.

Mozaffarian *et al.*¹⁴ reviewed 12 randomised controlled trials of replacing saturated or cis-unsaturated fatty acids with trans-fatty acids; their meta-analysis showed that trans-fatty acids raise low density lipoprotein, lower high density lipoprotein and have a number of other effects on blood lipids that all point to an increased risk of cardiovascular disease. They also reported a meta-analysis of prospective cohort studies involving 140,000 people that suggests that a 2% increase in the proportion of energy coming from trans-fatty acid intake was associated with a 23% increase in coronary heart disease. They noted that these adverse effects were associated with trans-fatty acids from partially hydrogenated vegetable oils. Analysis of studies of trans-fatty acid intake from ruminant fats shows no significant hazard. This is probably because the predominant trans-fatty acid in ruminant fat, vaccenic acid, is readily isomerised to conjugated linolenic acid, and there is some evidence of beneficial effects of conjugated linolenic acid.

Can trans-fatty acids be eliminated?

Partial hydrogenation of vegetable oils yields fats with more useful properties for food manufacture and commercial catering than complete hydrogenation to yield fully saturated fats. Simply mixing fully hydrogenated fats with unsaturated fats does not give useful products. However, the process of interesterification does. Interesterification involves partial hydrolysis of triglycerides, liberating free fatty acids, followed by re-esterification under controlled conditions, so as to yield triglycerides containing the desired mixture of saturated and unsaturated fatty acids. The end product has similar physical (and hence industrial) properties to partially hydrogenated oil, but without the formation of trans-fatty acids. Because of the additional step of inter-esterification, the final product is, of course, more expensive.

Health benefits of eliminating trans-fatty acids

There is a convincing body of evidence that (industrially produced) trans-fatty acids are hazardous to health. It is far too soon to know whether the elimination of trans-fatty acids from foods in Denmark will have any effect on cardiovascular disease, but it would seem prudent to follow the advice of the Dietary Guidelines for Americans¹⁵ to "consume less than 10% of calories from saturated fat ... and keep trans-fatty acid consumption as low as possible". The American Heart Association¹⁶ says that "consumers should limit their intake of saturated fat to less than 7 percent of energy, limit trans-fat intake to less than 1 percent of energy, and limit cholesterol intake to less than 300 mg per day while consuming a nutritionally adequate diet."

The problem arises in predicting the benefits of eliminating (industrially produced) trans-fatty acids from the diet. The American Council on Science and Health report on trans-fatty acids and heart disease¹⁷ notes that on the basis of intervention studies of the effects of trans-fatty acids on blood lipids, Mozaffarian *et al.*¹⁴ suggested that replacing trans-fatty acids with cis-polyunsaturated fatty acids would reduce the number of "coronary events" by about 6%. (There are about 1.2 million coronary events - fatal and non-fatal heart attacks - in USA each year, some 40% of which are fatal, so that some 29,000 deaths would be avoided). On the basis of their meta-analysis of the epidemiological studies, Mozaffarian *et al.*¹⁴ suggest that replacing trans-fatty acids with cis-polyunsaturated

fatty acids would avert 19 - 22% of heart attacks.

However, it is more likely that trans-fatty acids will be replaced by saturated fatty acids than polyunsaturated fatty acids, since unsaturated oils simply do not have the properties needed for food manufacture and commercial catering, so the benefits of eliminating trans-fatty acids will be less than predicted. The ACSH report¹⁷ concludes that "focussing too much on a single 'bad' factor ... can even promote unwise dietary choices, such as selecting a food containing a much larger amount of saturated fat rather than one with a small amount of trans fat".

While it would seem prudent to reduce trans-fatty acid intake as much as possible, replacement with saturated fatty acids is unlikely to be beneficial. It is important to realise that over the last two decades deaths from coronary heart disease have fallen in most developed countries, while intakes of trans-fatty acids have changed little. Trans-fatty acid intake is only one of the dietary and lifestyle factors that influence the risk of coronary heart disease, and perhaps one of the less important ones.

David A Bender

Endorsed by the executive committee of HealthWatch 14.2.2007

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WHAT ALTERNATIVE THERAPISTS MIGHT NOT TELL YOU

EBM-FIRST is a fascinating and compulsively browsable website which simply catalogues alternative and complementary treatments and links them to articles offering a more scientific viewpoint. The site was created three years ago to help balance out an Internet over-run with uncritical coverage of alternative therapies.

Its low-budget appearance is no accident: the site is run without any advertising or outside funding whatsoever. The web site manager is a UK mother and part-time secretary/PA who prefers to keep her identity anonymous for fear of reprisals by groups promoting alternative therapies. She was kind enough to talk to HealthWatch's editor about her mission.

"Five years ago, following a regrettable experience with an alternative medical practitioner, I began to investigate the evidence base for complementary and alternative medicine as it had become clear to me that much official (and often government funded) information available on it was misleading. After two years research, I decided to put all the information I had gathered online in the hope that others might find it useful."

In essence, the site represents the information resource which Sarah (not her real name) believes would have been helpful if only she could have consulted it prior to her treatment. Her story is of the type that is sadly familiar to HealthWatch members.

"Seven years ago I consulted a chiropractor for a chronic, but mild, extremity condition for which my GP said little could be done." X-rays taken by the chiropractor seemed to indicate degenerative disc disease in her neck which, he said, demanded a long schedule of treatment. "Without it," Sarah was told, "I would start to lose the mobility in my arms and legs within 10 years."

"My treatment consisted mainly of neck manipulations despite the fact that I hadn't been suffering from any neck pain. At no time did the chiropractor share his findings with my GP."

During treatment the chiropractor advised his patient that all children needed to have their spines checked regularly to stay healthy. "My son, aged 7 at the time, underwent a free screening and was diagnosed with a severe abnormal curve in his neck. This saw him being placed on a donation-based treatment schedule that mainly involved neck manipulations. He was also given reflexology 'to

stimulate his spleen', and both he and I were given craniosacral therapy sessions.

"After approximately 60 neck manipulations, the pain, discomfort and nausea that I had begun to experience caused me to seek a second opinion from my GP. When I informed the chiropractor of my intention, he protested saying that I was 'retracing', and that all I required was 12 more appointments before being placed on a maintenance care schedule." Alarmed, Sarah cancelled her outstanding appointments and sought opinions from two different medical doctors.

Sarah's GP had her neck x-rayed immediately and told her not to have any more chiropractic treatment, while the second doctor told her that she had not been correctly diagnosed, she should never have had her neck manipulated, and that her welfare had not been the chiropractor's main concern. "As for my son, my GP examined him and concluded that his neck was normal and that the condition for which the chiropractor had been treating him had never existed. The whole chiropractic episode cost over £1,200 and I still suffer from the condition for which I originally sought chiropractic treatment."

Ebm-first has grown into a mine of information, links and quotes on a long list of alternative treatments. Not all her site visitors appreciate her motivation, however. "Some of the messages I have received via the site have been from people raging about 'big pharma' and making accusations that the site is funded by the drugs industry. Although nothing could be further from the truth, there's little I can do about it," Sarah says.

*Mandy Payne
Editor, HealthWatch Newsletter*

Ebm-first: what alternative health practitioners might not tell you can be found on www.ebm-first.com

WATTS ON 3D "KEEPSAKE" SCANS

EXPECTANT PARENTS' desire to see images of their unborn children has given rise to commercial companies offering keepsake ultrasound scans without medical supervision, often referred to as "boutique ultrasonography." In a recent issue of the *British Medical Journal*, the 1993 HealthWatch Award winner journalist Geoff Watts considers whether this non-medical use of the technique can be justified.

Improvements in ultrasound technology have transformed antenatal scans from two dimensional black and white images to 3D, 4D and even moving pictures of the unborn child. Expectant parents seeking a CD-ROM or a DVD of their scan can expect to pay £150-£250.

The companies say that ultrasound has not been shown to cause any harm to mother or baby, but several official bodies have reservations about such use of the technology. The US Food and Drugs Administration (FDA) says, "Although there is no evidence that these physical effects can harm the fetus, public health experts, clinicians and industry agree that casual exposure to ultrasound, especially during pregnancy, should be avoided." The British Medical Ultrasound Society does not have a specific policy on non-medical imaging, but is currently updating its guidance.

There are also concerns about how staff deal with the discovery

of a fetal abnormality.

Beyond spreading a little happiness, the case for non-medical imaging relies principally on bonding: the sense of attachment between a mother and her unborn child, says Watts. The evidence that ultrasound images can foster this comes from 2D scans, but there is no evidence that 3D scans are more effective in enhancing maternal-fetal attachment.

The controversy over 3D and 4D imaging would be partially resolved if genuine medical benefit could be shown, he adds. Research is currently under way to find out if seeing the fetus in 3D might help spot abnormalities such as cleft lip. Early indications are that it may be useful but, for the moment, it is by no means self-evidently beneficial.

British Medical Journal 2007; **334**: 232-3.
<http://press.psprings.co.uk/bmj/february/feat232.pdf>

SCIENCE AND HUMAN HAPPINESS



The second annual *Sense About Science* lecture was delivered by Raymond Tallis, emeritus professor of geriatrics, polymath and prolific author. John Garrow was at University College London to hear him address an audience packed with around 300 scientists and a sprinkling of journalists and politicians

RAYMOND TALLIS' recently published book *Hippocratic Oaths* is essential reading for anyone concerned with the current problems of academic medicine and the NHS. His lecture covered many aspects of science and how it is perceived by the public, in particular the largely unrecognised contributions of science to human longevity, health and relief of suffering.

He also considered the problem of junk science, which is of particular interest to members of HealthWatch. Why does it flourish, when it should be laughed to scorn by even a half-educated public? Part of the answer lies in the honesty of science about its limitations: science does not offer certainties, but probabilities. It is strange that there is both suspicion towards real science and the authority of those who support it, and also credulousness towards junk science and the authority of its advocates.

Tallis believes there are three factors creating this situation. First, celebrity endorsement: Madonna's views on neutralising radioactivity are respected because she is Madonna, although the topic is well outside her field of expertise. Contrary opinion from an international expert in nuclear physics is ignored because the speaker is unknown to the public. Second, junk scientists borrow the terminology of science: for example "reflexology" and "homeopathy" sound like scientifically-based treatments, although they have no credible scientific basis. These two factors are combined when a scientific celebrity makes statement in field of science in which he is not expert. Who could doubt the opinion of an elderly double-Nobel Laureate about the effect of mega-vitamins on health, even if his Awards were in the fields of Chemistry and Peace?

"If scientists are most severely attacked it may be because they are most tightly corseted by rules that most people do not understand"

Tallis proposes, as a third reason why people who reject real science will nevertheless enthusiastically embrace junk science, that the latter is "intuitively attractive". When I first heard this suggestion I did not see much going for it, but on reflection I am becoming more favourably inclined, but I am not sure if my interpretation is one that Tallis himself would endorse. In many types of alternative medicine the theoretical basis is rather simple. Homeopathic remedies work (according to homeopaths) because "like cures like", and there are no side effects because the medicine is so extremely dilute. Acupuncture (and other therapies such as massage) work because the life energy in the body should flow in a balanced manner along pre-ordained meridians and the needles (or massage) correct imbalances in this energy flow. These are simple concepts, for which there is no scientific justification but at least they are easy to grasp and do no violence to our intuitive understanding. In contrast a scientific explanation of the cause or treatment of any common medical disorder such as a heart attack, rheumatism or headache would be far more difficult to grasp, and far less closely related to our ordinary life experience.

In the last part of his lecture Tallis raises what he says is perhaps the most important point: why is science now regarded as alien, and treated with such disrespect and hostility? His tentative answer is "because science is the most developed ... expression of an aspect of human consciousness that causes us ... discomfort." This aspect concerns the nature of human knowledge. I may understand this better when I have read his book *The Knowing Animal*, but at present I am soon out of my depth, and am not equipped to contribute to this philosophical debate.

However, it is the duty of scientists to challenge assumptions, so I

ask: Can we safely assume that this disrespect and hostility is directed especially against good science? Is this just (or partly) another manifestation of a general rebellion against rules and authority? In Victorian times great scientists were respected for their contributions to prosperity, health and happiness, and the pronouncements of Fellows of the Royal Society were treated with deference. The situation is quite different today. Today the opinions to take notice of are those of the public, as garnered in phone-in chat shows, not so-called experts in academic ivory towers. Science and scientists received their thanks and admiration a generation or two ago, now they are fair game for cynical debunking like all the other would-be rule makers. Why should scientists expect to be sheltered from this general disrespect for any authority? If they are most severely attacked it may be because they are most tightly corseted by rules that most people do not understand, and will only accept criticism from their fellow-scientists who work to the same arcane rules.

Professor Tallis had presented the distinguished audience with a huge amount of material, which stimulated a lively discussion period at the end. A frequent theme was how to present difficult scientific concepts (rather than scientific data) to a lay audience. For example, should scientists tell the general public that evolution is a fact and not a theory? In support of this is the overwhelming body of evidence, but Tallis advised against it. He agreed that evolution is as near to 100% proven as anything gets in science, in contrast to "intelligent design" for which no credible evidence exists, but that scientists should not appear to deny the possibility of knowledge progressing. In a similar but broader context, the problem of explaining uncertainty was discussed. Tallis agreed that this is one of the most difficult challenges for scientists, and one that requires special effort. He did not think that we should avoid trying to explain it. There were many other equally challenging questions, with equally intelligent answers, and the chairman Phil Willis MP had to draw the session to a close.

Whatever the reason for the rise and rise of nonscience, we agree it is a sinister development, and we need the scientists to come to the defence of true science, as Professor Tallis has done in this lecture.

John Garrow
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Books by Raymond Tallis referred to in this article are:

Hippocratic Oaths: Medicine and Its Discontents. Published by Atlantic, London, 2004. ISBN 184 354 1270. 352pp. RRP £9.99.

The Knowing Animal: a philosophical inquiry into knowledge and truth. Published by Edinburgh University Press, Edinburgh 2005. ISBN 074 861 9526; 074 861 9534 (paperback). 330pp. RRP £21.99.

Sense About Science is an independent charitable trust that responds to misinformation about science. For more information see the website <http://www.senseaboutscience.org.uk> or "Sense About Science explained" by Ellen Raphael, *HealthWatch Newsletter* issue 56, January 2005.

OF PADS AND PATCHES...



David Bender, HealthWatch's Chairman, recently picked up a leaflet advertising detox foot pads on one side and hoodia slimming patches on the other. Both were on special offer; the foot pads reduced from £19.95 to £9.99 for a 3 day course and the hoodia patches reduced from £29.95 to £9.99 for a 30 day supply. Was he tempted to splash out?

DETOX NATURELLE are "revolutionary new foot pads that gently detoxify your body while you sleep. They contain natural extracts that absorb toxins and can help create a healthier you". Unfortunately, there is no more information about the ingredients on the company's website <http://www.healthrack.co.uk> and there are no reviews of the product available there either.

We are told in the leaflet that "the average person can consume up to 5 kg of chemical food additives in the course of a year, causing toxins to build up in the digestive system". I would challenge the figure of 5 kg, and certainly the idea that toxins accumulate in the digestive system - in fact they are excreted in faeces if they are not absorbed and metabolised in the liver. The recommended treatment is a 3 day course initially, followed by a course of 3 days "one to three times a month, or more, depending on lifestyle and exposure to toxins".

My problem is that even if we did accumulate toxins in the digestive system, which we don't, I cannot understand how they could be lost from the body through the feet. Surely, what has not been absorbed, but remains in the gut, cannot possibly get to the feet?

It is perhaps unfortunate that the manufacturers have called these "foot pads". The Shorter Oxford English Dictionary defines a footpad as "a highway man who robs on foot".

Hoodia is a different matter. The San people of the Kalahari have long chewed the leaves of the cactus-like plant *Hoodia gordonii* to ward off hunger, and western pharmaceutical companies have an obvious interest in isolating the active ingredient as a potential appetite suppressant drug. The commercial potential is immense, and hoodia is probably the first example of a traditional remedy being investigated and possibly exploited under a carefully drafted agreement that will give the San people a share of the income!

A PubMed search (December 2006) reveals only three reports concerning the active ingredients, plus a reference to Consumer Reports² that concluded, "This weight loss drug lacks the clinical evidence for the Consumer Reports experts to recommend this product." In fact, although a putative active ingredient has been identified as an oxypregnane steroid glycoside, and injection into the brain of experimental animals leads to changes suggesting that it may act to reduce hunger or appetite³, no clinical trials have yet been reported, and no tested product has come to the market from

the pharmaceutical companies that have signed the agreements with the South African Council for Scientific and Industrial Research and the San people.

Despite this complete lack of evidence, my email inbox contains many advertisements for hoodia products every day. What the leaflet from Healthrack offers is a patch containing hoodia extract, with the comment that, "Some people report that hoodia works for them immediately, suppressing appetite within 20 - 30 minutes after applying the patch. Generally though, people typically need up to two weeks of regularly using hoodia before they begin to notice the effects." Surely not. The active ingredient has an immediate action on the appetite centres of the brain³, and surely a San hunter does not chew the leaves for a fortnight before going hunting.

Perhaps more seriously, I question whether it is likely that, if the active ingredient in hoodia is effective and safe when taken by mouth (which has not yet been tested), it would be absorbed across the skin from a patch. I very much doubt it. Compounds that are absorbed through the skin are generally lipid soluble - contraceptive steroid and nicotine patches have been demonstrated to be effective. A steroid glycoside is not lipid soluble, and so would not be absorbed.

David A Bender

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2. Hoodia: lose weight without feeling hungry? *Consumer Reports* 2006; **71(3)**: 49.
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1. The assessment and testing of treatments, whether "orthodox" or "alternative";
2. Consumer protection of all forms of health care, both by thorough testing of all products and procedures, and better regulation of all practitioners;
3. Better understanding by the public and the media that valid clinical trials are the best way of ensuring protection.

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